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PUBLISHED UNDER THE DIRECTION OF THE

ROYAL ANTHROPOLOGICAL INSTITUTE

OF

GREAT BRITAIN AND IRELAND

XLI.

1941.



Nos. 1—103.

WITH PLATES A—F

33488

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Published by

THE ROYAL ANTHROPOLOGICAL INSTITUTE, 21, BEDFORD SQUARE, LONDON, W.C.1.

General Agents: FRANCIS EDWARDS, 83, High Street, Marylebone, W.1.

New York Agents: Messrs. G. E. STECHERT & Co.

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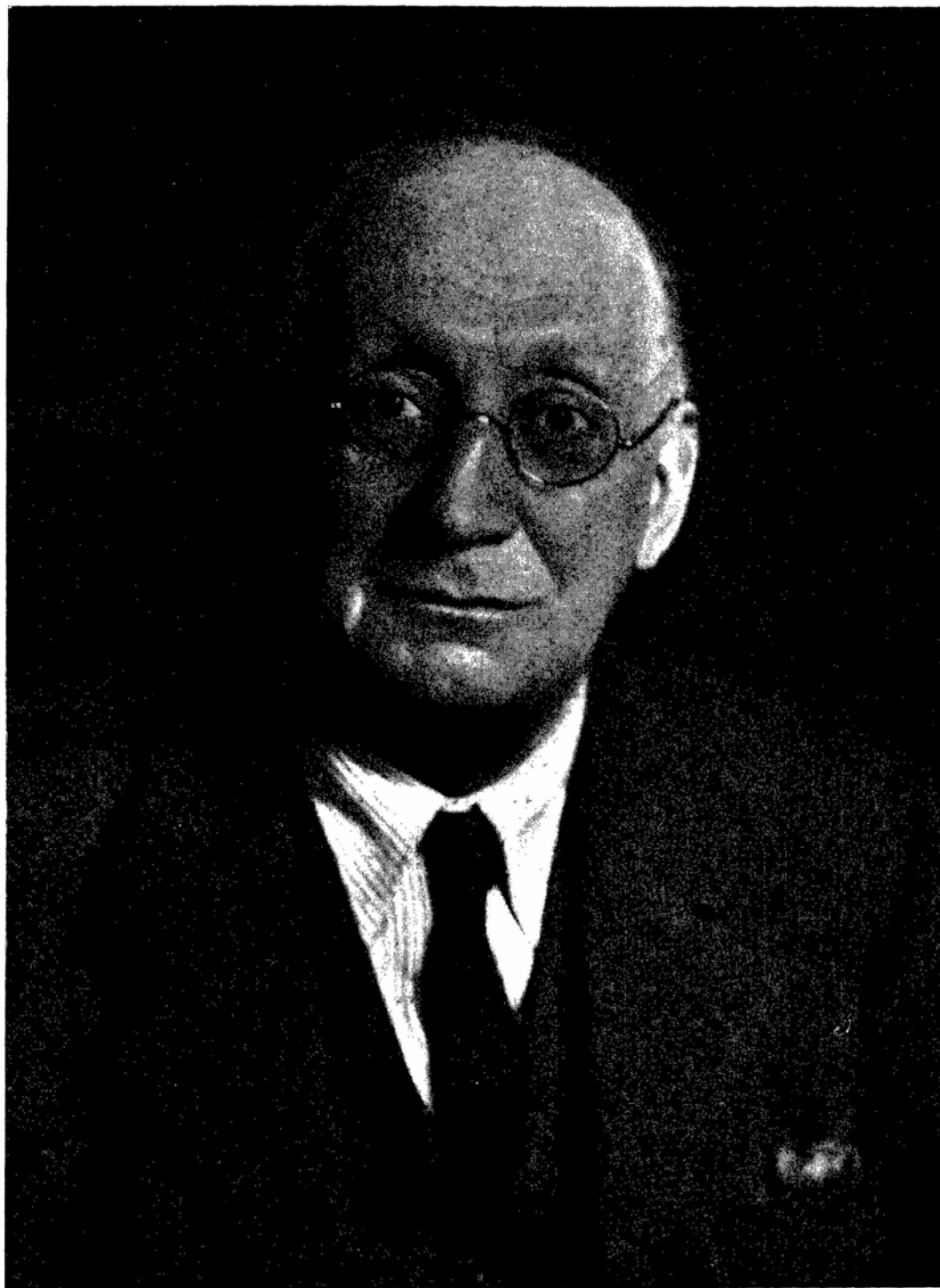
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CHARLES GABRIEL SELIGMAN, M.D., F.R.S.
1873-1940

PRESIDENT OF THE ROYAL ANTHROPOLOGICAL INSTITUTE, 1923-25
HUXLEY MEMORIAL LECTURER AND MEDALLIST, 1932

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XLI, 1-14

JANUARY-FEBRUARY, 1941.

ORIGINAL ARTICLES.

With Plate A.

CHARLES GABRIEL SELIGMAN, 1873-1940. *By M. Fortes.*

1 Newton, speaking of his own discoveries, said "We stand on the shoulders of giants." Anthropology has yet to find its Newton; it has had its giants; and C. G. Seligman was one of them. After Tylor, he was, with Haddon and Rivers, one of the principal authors of the momentous transformation by which anthropology became a natural science at the beginning of this century. It is significant that they were all biologists by training, who had already made a name in experimental research before they embarked on the wide and almost uncharted ocean of anthropology. It is significant, also, that they belonged to the age of T. H. Huxley's scientific heirs. The experimental method had been proudly vindicated in biology. Obscurantism about the natural origin of man had been finally routed. Science was mastering the secrets of man's bodily structure and evolution. The time was ripe for reason and scientific method to be bent to the task of understanding man's mind and social organization. In 1865¹ Huxley had mapped out the future Science of Man.

"Ethnology," he declared, "is a branch of *Anthropology*, the great science which unravels the complexities of human structure; traces out the relations of man to other animals; studies all that is especially human in the mode in which man's complex functions are performed; and searches after the conditions which have determined his presence in the world. And Anthropology is a branch of *Zoology* which again is the animal half of *Biology*—the science of life and living things."

We must bear in mind this background and this Huxleian conception of the Science of Man, if we wish to understand the spirit in which Haddon, Rivers, and Seligman set out on the researches which laid the foundation of modern field work methods and thus of scientific anthropology in this country. An objective of smaller scope or lesser nobility would hardly have tempted men of their intellectual calibre and character to give up the work they were already engaged upon, and to sacrifice careers which had already brought them into the front ranks of their respective professions. Seligman has in fact told us² that Huxley and Haeckel were the two heroes of his boyhood.

This is a tribute to the life and work of C. G. Seligman, but it has been necessary to mention Rivers and Haddon at the outset. For it was not only his association with them on the Torres Straits Expedition that first swung Seligman's interests in the direction of Anthropology. He always spoke of them with characteristic modesty as his teachers; and they were his lifelong friends and comrades in arms, all standing for the same broad conception of Anthropology as embracing the study of Man's body, his mind, and his culture. From beginning to end, Seligman's work was inspired by this point of view. Hence he made himself a master of every branch of Anthropology,

¹ T. H. Huxley, 'On the Methods and Results of Ethnology.' *Man's Place in Nature and Other Essays*, 1910 edn. (Macmillan), p. 209.

² In his Huxley Memorial Lecture, 'Anthropological Perspective and Psychological Theory.' *J.R.A.I.*, 62, 1932, 193-228.

welcomed keenly every new development in its subsidiary specialisms—in human biology, in prehistory, in psychology and in sociology—and himself gave noteworthy lead to the exploration of 'border-line' problems and disciplines.

Seligman became an anthropologist by a series of lucky chances. Yet few men could have been better equipped both by native bent and aptitudes, by character and by training, for what was to be his life's work. He owed his achievements, from the first, to his own ability, energy, perseverance and integrity. He was the only child of a London wine-merchant, Hermann Seligman and his wife Olivia, born Mendez da Costa. Through his mother, therefore, Seligman was descended from Emanuel Mendez da Costa, who became, in 1747, the second Jewish Fellow of the Royal Society and was later its Secretary. But Seligman's immediate home-surroundings provided no stimulus to his scientific interests; nor, as he was wont to say, with that humorous detachment which was one of his most lovable qualities, did his subsequent career owe anything to his education at St. Paul's School. One reason, perhaps, was that his schooling was oft interrupted. Illness compelled his mother to spend long periods every year in the country or by the sea, and the boy generally accompanied her. However, the enforced idleness proved to be a godsend, for he was able to indulge to the full a passion for natural history, and an insatiable appetite for reading. Thus took root his wide literary culture of later days, and that knowledge of, and love for, the English countryside, which made a walk with him as enlightening as it was pleasant.

During his schooldays Seligman made the acquaintance of F. M. Halford, a celebrated fly-fisherman and enthusiastic amateur microscopist. Halford not only stimulated his interest in scientific biology, and initiated him into the art of fly-fishing—the one form of sport of which Seligman was a lifelong devotee—but brought him into close contact with C. S. Myers (Professor C. S. Myers, M.D., F.R.S.). These congenial associations had a great effect on Seligman's later career.

Seligman had barely left school when both his parents died, and he went to live with a distant relative. His fate was now in his own hands. He had already resolved to become a biologist. With characteristic independence of judgment and tenacity of purpose, he decided therefore, to

take up medicine. He won an entrance scholarship to St. Thomas's Hospital, and went up in 1892. When, in 1896, he qualified M.R.C.S., L.R.C.P., he was awarded the Bristowe Medal for Pathology, and was later appointed House Physician. But his real interest lay in research. He obtained a Salters Research Fellowship and began working under S. G. Shattock. Shattock, Seligman often said, was one of the most important influences in his scientific education. From him he learnt the art of formulating a problem precisely, and of setting down his observations with the utmost economy of language. In everything he wrote, Seligman took the greatest pains to attain precision, economy, and simplicity. His books and papers are models of exactitude and lucidity in description and analysis.

Seligman soon showed his mettle as a research worker in papers on pathological subjects, published in 1896 and 1898. Then came the Torres Straits Expedition, which was eventually to re-shape his life's work. Seligman heard of it from his friend C. S. Myers, who was one of the team of able young psychologists Haddon had chosen to accompany him. His imagination was captured; and as Haddon has himself related³ "He was so keen that I was practically forced "to accede to his persistence." Enthusiastically Seligman went on ahead, spent some weeks among the tribes of the Cape York peninsula learning the ropes of anthropological research, and later joined the main party at Thursday Island.

The story of the Expedition is a part of the history of anthropology. Seligman's main contributions to its work were made as a medical man. But he was deeply interested in the ethnological and psychological investigations as well, and took a share in them. Thus he helped to create the new methods of field work which made the Expedition an outstanding event in anthropological history, and saw at first hand the importance of studying the psychology of primitive peoples.

Seligman returned from this 'busman's holiday' to resume his pathological research as superintendent of the clinical laboratory at St. Thomas's. Except for a few brief contributions

³ *Essays presented to C. G. Seligman.* Edited by E. E. Evans-Pritchard, R. Firth, B. Malinowski, and I. Schapera. 1934: from the 'Appreciation' by A. C. Haddon, pp. 1-4.

to Vol. 5 of the *Report of the Expedition*, and some short papers in the *J.R.A.I.*, his publications of this period deal entirely with pathological and physiological problems, including some that he had investigated among the natives visited by the Expedition.

Fortune intervened again in 1903. During a fishing holiday he made the acquaintance of Major Cooke Daniels and aroused his interest in New Guinea, to which the Torres Straits Expedition had paid a short visit. The result was the Cooke Daniels Expedition to New Guinea, in 1904, the first fruits of a wonderful knack Seligman had of evoking enthusiasm and support for anthropology in the most unexpected quarters.

Back home again, Seligman returned to pathology, giving his spare time to working up his ethnographic material from New Guinea. He was Pathologist to the London Zoological Society, and to the Royal Commission to investigate Grouse Disease (1905). He took his M.D. (London) with a thesis embodying some of his observations in New Guinea, for which he was awarded a Gold Medal. He did not, in fact, finally give up pathology until 1911, when he was elected F.R.C.P. and was Hunterian Professor and Harris and Gale Lecturer at the Royal College of Surgeons. By that time, however, the die was cast, and he had finally switched over to anthropology.

In 1905 occurred what Haddon (*l.c.*) has described as "the most important event in Seligman's career"—and no man was better able to judge of this than Haddon—his marriage to Brenda Z. Salaman. It was an ideal partnership. What it meant for Seligman's work and achievements as an anthropologist is known to every student of the science. Those who had the good fortune of winning the friendship of the Seligmans know, also, of the constant joy and happiness his wife gave to him, and of the continuous inspiration she was to him in all his thought and activities. Seligman never lost the habits of the laboratory student. He was extremely methodical, took the greatest care to check every detail of information he was preparing for publication, and, when he struck out new fields of inquiry, did so with scrupulous attention to established facts and theories. His wife shared his scientific principles and standards, but she brought to the partnership a gift

complementary to his habit of mind—the gift of seizing swiftly on broad general principles, and a spirit of intellectual adventure which acted as a spur to his more systematic pursuit of knowledge.

The results of Seligman's work in New Guinea were published in *The Melanesians of British New Guinea*, in 1910. This book, destined to become a classic, placed him at once in the front rank of contemporary ethnologists. As a demonstration of what scientific ethnology is, and is capable of, it broke new ground, and has hardly been surpassed. It was a broad survey of an ethnographic region, opening up for later workers a practically virgin field. Reading it to-day in the light of later, intensive field work, much of it carried out directly or indirectly under Seligman's inspiration, we can admire all the more the patience and pertinacity with which he carried through his research, and, especially the remarkable flair, distinctive of all his work, which he shows in it, for spotting the fundamental factors of a situation.

Meantime, however, Seligman had an opportunity of greatly extending his experience of field work. Through Haddon's initiative, he was invited by the Ceylon Government to make a study of the fast disappearing Veddas. This time (1907-8) his wife accompanied him to the field. Their book on *The Veddas* appeared in 1911, and not only added to his own reputation, but established his wife's name in the ethnological world. Thereafter, she collaborated with him in all his major ethnological research.

The expedition to the Veddas enabled the Seligmans to test thoroughly their ethnographical approach and methods of field work. They soon had an opportunity of applying them in a far more exacting field. In 1909 they were invited by the Sudan Government to make an ethnological survey of the Sudan. Altogether they made three trips to the Sudan—in 1909-10, 1911-12, 1921-22. The task they undertook, which was nothing less than to fill in an almost complete blank on the anthropological map of Africa, would have dismayed less resolute workers. They had immense difficulties to cope with, difficulties of travel and communications in an as yet unsettled country, as well as those due to the absence of knowledge of the languages and cultures of the area. But the results they achieved were prodigious, by any criterion. They

covered everything—the physical anthropology, the material culture, the ethnography, and even the cultural history and prehistory of the region, keeping steadily in view their aim of getting a general picture of the people of the Sudan. Their observations appeared in a stream of publications, some joint, many by Seligman alone, from 1911 onwards, culminating in their sumptuous book *The Pagan Tribes of the Southern Sudan*, 1932, which is now the *locus classicus* for that region. By then Seligman was already recognized as the greatest living authority on the anthropology of the Sudan, with respect to both its negro and its non-negro population. Though he followed closely every addition to our knowledge of Melanesia, and probably knew more about that region than any other anthropologist in the world, he gave much attention to Africa in the last fifteen years. His masterly little book *The Races of Africa*, 1930, is a standard reference book.

Seligman finally decided to devote himself completely to anthropology, when he accepted the appointment of University Lecturer in Ethnology at the London School of Economics in 1910. In 1913 this lectureship was made into a part-time Chair for him. Largely through his initiative, the Department he founded became in time one of the leading research schools of anthropology in the world. In 1915 Seligman's eminence in anthropology was recognized by his election as President of Section H. of the British Association.

When the war broke out in 1914, Seligman offered his services to the country as a medical man. A weak heart made him unfit for overseas service, and it was not till 1917 that he was absorbed into the war-time medical service. He was appointed to the staff of the shell-shock hospital at Maghull, with the rank of Temporary Captain R.A.M.C. Among his colleagues was Bernard Hart, the distinguished psychiatrist. Seligman found his work at Maghull extraordinarily congenial and stimulating. His interest in psychology dated back to the Torres Straits Expedition. But he was dissatisfied with the concepts and methods of experimental psychology. Now he had an opportunity of experimenting with psycho-therapeutic methods based on new theories, especially those of psycho-analysis, which appealed strongly to his scientific sense. On taking up his anthropological work

again after the war, Seligman turned these experiences to fertile use. He made a speciality of studying the application of psychology and psycho-analysis in the field of anthropology, and he attached great importance to these studies. Both his Presidential Address to the Royal Anthropological Institute in 1924, and his Huxley Memorial Lecture in 1932, dealt comprehensively with problems raised by them.

Seligman's psycho-ethnological studies opened up new lines of research, and brought to light data of seminal value for both disciplines. As in his strictly anthropological research, he refused, characteristically, to be bound by hard and fast doctrines, but considered without prejudice every theory that might explain the facts. He objected only to 'mysticism' in science, and was therefore specially attracted to psycho-analysis which he considered to be the most valuable and objective of the 'new psychologies.' Nor was he deterred by the criticism and suspicion which is met with from other anthropologists. For Seligman knew no half-measures in anything to which he put his hand. His example and personal efforts played a great part in bringing psychologists and anthropologists together to the mutual advantage of both sciences.

After the war, many honours were conferred on Seligman in recognition of his distinction as an anthropologist. He was made a Fellow of the Royal Society in 1919. The Rivers Memorial Medal was conferred on him in 1925, he was Huxley Memorial Lecturer and Medallist in 1932, and Frazer Lecturer in 1933. In 1934 ill health compelled him to retire from his Chair at London and he was given the title of Emeritus Professor. In 1938 he was invited to Yale as Visiting Professor, and made use of the opportunity to study recent developments in anthropology in the U.S.A., and to see some of the finest ethnographical museums and art collections of the U.S.A. and Canada. All this time he was going on with his own anthropological and oriental research. Before his death he was working up his material on Melanesian art, seeking, with the help of a non-ethnological expert, to discover new ways of handling the subject.

The anthropological activities that won Seligman a world reputation were versatile and wide. In addition to his pioneering ethnological work in three continents, he was an authority on physical anthropology and on certain branches

of prehistory and archaeology. He enriched the ethnographical museums of this country by his skill as a collector, and had a wide knowledge of the best ethnographic collections of the world. Yet he found the time and energy to cultivate other interests as well with the same thoroughness and distinction. He was a keen collector and profound scholar of Chinese plastic and graphic art, and an acknowledged authority on Chinese culture, archaeology and prehistory. He did notable work in tracking down the evidence of early cultural links between China and the Occident. He left a magnificent collection of beads from all over the world, and made important contributions to the study of their provenance and diffusion. And he was not merely an armchair connoisseur, for in 1929 he and his wife made a long tour in the Far East to study Chinese and Japanese art and life at first hand.

It is impossible to think of Seligman the man, apart from Seligman the scholar, scientist and teacher. For he was all of a piece. His influence as leader of anthropological research was enormous, though deliberately unobtrusive, as the *Essays* (see n.3) presented to him by a group of his pupils, friends, and colleagues on his sixtieth birthday show. The Seligmans' home was a focus of inspiration to anthropologists and orientalisists from all over the world. He was in friendly communication with scholars and scientists at every centre of learning in the world. Many visited him in England, and others he knew personally through his own visits abroad. But he was equally accessible to humbler people interested in the same things as himself. Men and women from every walk of life, of every creed, race, and age, and from the remotest parts of the globe sought his ready help. He gave them advice and encouragement, edited their manuscripts, and not infrequently found the means for them to carry on their research. Where science and scholarship were concerned, he never allowed personal considerations or private prejudices, his own or others', to bias his judgment.

He was a most unpedagogical teacher, who influenced his pupils less by the subject matter of his instruction, than by its mode, and by his friendship for them. He won their admiration and devotion by his sober, frank, and tolerant appreciation of their efforts and capabilities, by encouraging them to follow out their own lines

of thought, and by inspiring them with the feeling that they were his collaborators in a noble task. He gave them an insight, not by precepts, of which he was very chary, but by example, into his own standards and values. In this way he taught them the meaning of one of his guiding principles, that anthropologists have a greater responsibility to posterity than any other scientists, since the material they are dealing with is vanishing rapidly.

The most modest and reticent of men, Seligman would have laughed if he were told how greatly his friendship was prized. For he had a host of friends, and few, if any, enemies, though he was as discriminating about people as about books, ideas, and Chinese bronzes. Young people were keenly drawn to him, for his was a forward-looking spirit, ever curious about, and sympathetic towards, their ideas and aspirations. His learning was a magnet to young and old, and his simplicity and complete lack of self-importance made one happy to be in his company. His unfailing wisdom and tact, his generosity and hospitality, his indefatigable helpfulness, his quiet humour and humanity, his downright honesty, his kindness and forbearance, and his zeal for the fine things of life, made 'Sligs' a pillar of strength to his friends. Himself incapable of malice or equivocation, he loathed two things above all—humbug and shoddiness in science, in art and in life.

For many years Seligman had to battle with ill-health, and the events of the last few years shocked him deeply, both physically and psychologically. Much of his energy during these years was spent in helping scientists and scholars driven out of Germany and other parts of the Continent. He helped many through the agency of public bodies on which he served, but many more were saved from despair, and given opportunities for work and for service to this country, through his private and secret beneficence.

Seligman's death is a severe loss to the Institute. He was an old member, a past president and a vice-president, and one of the most active members of the Council and Executive Committee of the Institute, right up to his last illness. A wise counsellor in all its affairs and a staunch stand-by in all its troubles, his ripe judgment will be sadly missed in the difficult times ahead.

The range and diversity of Seligman's scientific interests can be gauged from his bibliography.

A partial bibliography, up to 1934, was printed in the previously mentioned *Essays Presented to C. G. Seligman*. A supplementary list completing it is appended here.

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RACIAL CROSSING AND CULTURAL EFFLORESCENCE.¹ By John Murphy. Victoria University of Manchester.

2 My approach to this study was not through Genetics, in which I am not expert, but first through literary and historical considerations, and later through anthropology and the comparative study of religion. The problem was raised in early student days by our own literature

and by the impression made by the brilliant Elizabethan era in its history. That extraordinary concentration of talent and genius of the most varied forms within a limited period seemed to call for some explanation. The phenomenon was not, one knew, isolated; in the same Renaissance period there were similar outbursts of poetic, philosophic and scientific genius and power, the nearest in variety and

¹ This paper was prepared for the meeting of the British Association in Dundee, but was not read owing to interruption of the meeting by the approach of war.

brilliance to that in England being the Italian Renaissance with its centre in Florence. The interest in the problem was deepened when one turned to the ancient world and observed the same phenomena of a remarkable luxuriance of intellectual power, both in its quality and in its variety, and within a limited period of time, in the classic instance of Greece. It is needless for me to give examples of the Greek genius in the great period, say, from the ninth to the fourth century B.C.; but I may call attention to the two characteristics which at the moment are of special interest, namely, in the first place, its extraordinary splendour in almost every sphere of intellectual, imaginative and practical activity, and in the second place, its equally striking variability. This latter quality is evidenced not merely by the variety of the ways in which the Greek genius found expression, but in the thrust of that genius in every direction, in the push towards creativeness in every form of culture, and in the intellectual zest in the exercise of creative power which is so evident in the literature. There one is reminded of nothing so much as the springtime of vegetation in Nature, or of that urge towards variability which Darwin observed in plants, and which he connected with the crossing or varieties of hybridization.

Before proceeding to the general application of this analogy or principle, which is the main point of this paper, it is not unimportant to observe that this urge towards variability in organisms becomes manifest in its failures as well as in its triumphs. Thus intercrossing of plants and animals does produce varieties which prove weak and speedily become extinct; and so one may see the intellectual thrust and zest of the Greek mind decline in the sterile argumentation of the Sophists, and manifest its dying energies in that eagerness remarked upon in the *Acts of the Apostles* on the part of the Athenians, 'either to tell or to hear some new thing.' In connexion with this point I may refer to a remarkable address by William Bateson to which Professor J. L. Myres has called my attention.² In his Presidential Address to the British Association in Australia in 1914, he not only lays down the main principle of this paper, but is astonishingly prophetic of the course which

theories of race have taken at this very hour in both the right and the wrong directions. In his famous criticism of the inadequacy of Darwin's principle of Natural Selection to account completely for Evolution, he puts forward as an alternative, or at least as supplementary to that principle, the intercrossing of races as a highly important cause of variation and advance in evolution. He employs Athens in the great period as his illustration both of a brilliant efflorescence consequent upon racial crossing (in part as a result of the policy of Cleisthenes in breaking up the aristocratic tribal system, with its inbreeding of the superior citizens) and also of the inferior and degenerate types which are included in the variability, and probably always increase with the decline of the pristine vigour induced by the hybridization.

The object, then, of this essay is to explain and illustrate a principle of Charles Darwin, which he observed in operation in plants and animals, in its application to the human species. He states it in the *Origin of Species* in this way: "I have collected so large a body of facts, showing, in accordance with the almost universal belief of breeders, that with animals and plants a cross between different varieties, or between individuals of the same variety but of another strain, gives vigour and fertility to the offspring; and on the other hand, that close interbreeding diminishes vigour and fertility" (p. 45). He adds two other factors which are of importance with regard to human intercrossing, though he is still referring to animals and plants, when he says: "It seems pretty clear that organic beings must be exposed during several generations to the new conditions of life to cause any appreciable amount of variation; and that when the organization has once begun to vary, it generally continues to vary for many generations" (p. 11). Applied to human beings this corresponds to the historical facts that some centuries, that is to say, as many as ten or twelve generations, must elapse in order that the intercrossing of varieties within the human species may result in the efflorescence of genius and culture which marks the great periods in the history of the race as a whole and in the history of particular peoples. The other fact is that, in man also as in plants and animals, the momentum of variation continues for a period, and tends to express itself in the variety of

² Report of the British Association for the Advancement of Science. 1914, especially pp. 34-36.

intellectual power, genius and culture which characterize the 'great age.'

To these factors one may add a third which can be deduced from Darwin's work in general, and which later researches have brought more into the light. It appears that the human racial crossings which produce the most marked instances of efflorescence in genius and ability, take place among varieties which are comparatively akin to each other, and that, on the contrary, where the varieties which hybridize are distant from each other in type, in other words, where the crossing approaches the hybridization of species with its associated sterility, there is a deficiency in the production of superior ability. Genetic investigations into the crossing of varieties so distinct as Negro and White in America are proceeding, and seem to give indications of a decline in vigour and variability of intelligence in the offspring; but the evidence is insufficient to warrant a more certain conclusion. Moreover, it may be noted that the condition already mentioned for cultural efflorescence, namely, the lapse of a sufficient period for the hybridization to take effect (the suggested ten or twelve generations) may not yet have been fulfilled.

The application of the Darwinian principle of human hybridization and its consequences is admirably made in the able book on *The Psychology of Men of Genius*, by Ernst Kretschmer, Professor of Psychiatry and Neurology in the University of Marburg. He is specially interested in the effect of the crossing of varieties upon the production of individuals of genius, but applies the same principle to the crossing of racial stocks, as in the following quotation: "In cross-breeding we have a process which is also recognized in the biology of plants and animals, and designated in that field as 'the luxuriation of the hybrid.' The hybrid, we find, grows larger and stronger than the parent stocks. When we examine the problem of genius biologically, we come upon just such processes of cross-breeding. Pure races, inbred for very long periods, are often poor in genius to a very marked degree, though they may show a very high general level of capability, as may be seen in the regions of purest Nordic racial elements in North-West Germany, or in the old Lacedaemonians, with their strict racial exclusiveness. On the other

hand, we find that when the same race through conquest or immigration, or intermixture at great seaports, becomes fused with other equally gifted races, there arises sometimes, and after many centuries, with explosive suddenness, a wealth of genius. That can be seen in ancient Greece or the Florentine Renaissance; first a migration of peoples (immigration of strong, warlike races), then, for centuries, a relative intellectual calm, and, finally, a period of abundant genius" (pp. 64-5). Kretschmer gives as an example which is unique in the availability of historical and statistical material to substantiate it, the intercrossing of the Nordic and Alpine races. Of this he says: "the mixture of Nordic and Alpine races has provided us with an especially clear example of the way in which the hybridization of partly dissimilar races, by compensating and supporting the characters of each component, can give rise to a complete and vital civilization, i.e., to a series of populations constantly breeding a sufficiency of men of genius" (p. 99).

Kretschmer further remarks that "one may assume, with some probability, that the rise of lofty civilizations, blossoming with genius, at other times and in other races and nations, was caused by a similar process of cross-breeding." (*ib.*). I should emphasize that this is more than a brilliant conjecture or a probable assumption, but is a historical fact of great significance for our theory. That fact is that the efflorescence of the Greek genius and culture in the period between the ninth and fourth centuries B.C. did not by any means stand alone, but that within the same centuries there was a similar blossoming right through the ancient civilizations of the Fertile Crescent, from Greece and Egypt by way of Palestine and Mesopotamia to India and China. Included with the poets, thinkers and artists of Greece, there are the Hebrew poets, prophets and lawgivers, the philosophic and mystical thinkers of the Upanishad type in India along with the Buddha, and the remarkable group of philosophical and ethical teachers of the Confucian era in China. At the same time the absence of a written literature in Babylonia, and its severe limitations in Egypt, only partially conceal the fact that there was a general diffusion of the same type of mind among the cultured and leisured class in these

civilizations. In truth, what is simply blazoned across these civilizations of the fertile Crescent, and upon that belt of time near to and within the last thousand years B.C. is one intellectual efflorescence whose essence is the emergence of a new type of mind, namely, what I venture to call the Civilized Mind.

The distinction which the distinguished French anthropologist, Lucien Lévy-Bruhl, drew between the primitive and the modern or civilized mind, was too absolute in various ways; but the truth to which he drew attention is that such a contrast can be made, and it proves illuminating for the theory we are considering. The civilized mind, then, as it appears in the ancient civilizations, and is illustrated by the thought of the groups of thinkers just mentioned as appearing in the centuries prior to the fourth century B.C., has three chief characteristics observable in all its manifestations. They are the capacity for abstract or conceptual thought, the power and exercise of ethical judgment, and a widely-diffused self-consciousness or consciousness of individuality among the large leisured class of the population, as well as among the superior workers above the slave and lowest labouring classes. The type of mind which we contrast with the 'civilized' we call the 'tribal,' because it covers—broadly speaking—the mentality of the numerous peoples existing at the present day who are known to us as "tribal" in their economy, their customs and their habits of thought. Applying the contrast to the three salient qualities of the civilized mind, the tribal mentality is perceptual rather than conceptual, concretistic (to use the word of Jung) rather than abstract in its thought; governed, that is to say, by the perceived concrete elements in a given situation, rather than by general principles applicable to many similar situations. The tribesman, further, is not indeed wholly devoid of initiative—to say so is an exaggeration—but he is strongly bound by the tribal solidarity; the interests of the tribe are supremely authoritative; and its customary rules for dealing with mysterious power, as in magic, tabus, and so forth, and its laws and its substitute for an ethical system. Hence also there is severe restriction upon the individuality of the member of the tribe.

The transition from the tribal mind to the civilized in the ancient civilizations was largely

a result of the foundation of these states and empires by migrating tribal hordes. The same process can be observed all along the Fertile Crescent of wave after wave of migrating and conquering hordes, issuing mainly from the Eurasian steppes into the fertile areas, settling there, and on the basis of large-scale agriculture creating a highly developed civilization, in which the characteristic features of tribalism largely disappear. Other influences were operative; but what we wish to emphasize is the inter-crossing of races as a powerful factor in the emergence of the civilized mind. This hybridization took place in every case, first of all through the crossing of the invading peoples with the aborigines, and later, as perhaps a more important influence, through the mingling of the successive waves of immigrants, who were sufficiently different from each other to be varieties of the same race. Of this, one of the most striking examples is that most familiar to us in this country, in which peoples of the great Indo-European family, Kelts, Anglo-Saxons, Normans and Danes, crossing with an Alpine and Mediterranean substratum, mingled with each other so as to produce after a few hundred years that great outburst of intellectual vigour and luxuriance of genius which centres in the Elizabethan age. Without giving further examples, I may summarize a few points which have emerged.

First, one need not further emphasize here that the main position of this paper is wholly contrary to the idea of a pure Nordic race, which scientific men have dismissed everywhere as mythical, except where they are under peculiar compulsions deplorable in the realm of science. Professor Arnold Toynbee puts together in 'The Study of History' the intermixture of varieties of race which have gone to form the civilized peoples from ancient times in Egypt, Babylonia, the Indus region and Greece to modern days in Germany, Italy and France. He adds that we find "an equal or greater variety of strains in the population of the other three great powers of the post-war world" (Vol. I, pp. 242-3) in Japan, in Russia, and in the melting-pot of the United States with its ingredients from all the races of the world. Professor Toynbee's conclusion is that "the subsidiary law that the geneses of civilizations require creative contributions from more races than one becomes self-evident" (p. 241).

Second, one may take note of a possible explanation of the phenomena here dealt with by a suggestion expressed in the phrase, "the cross-fertilization of cultures." The idea is itself not unfruitful, though there is some danger of taking the rather facile metaphor as solving the problem, without showing in detail how it works. I should, however, give some weight to the similar idea of Professor F. J. Teggart in his book 'The Processes of History.' It is that the advance of culture in this sudden way is due to the clash of idea-systems, resulting in a new idea-system which is "the product of critical activity stirred by the perception of conflicting elements in the opposed idea-system" (pp. 151-2). This is a factor which makes some contribution to cultural advance; but there are two circumstances which make it unacceptable as a complete explanation. One is that the 'tribal' mind can scarcely be said to possess an idea-system until it has become civilized and acquired the conceptual character of civilized thinking. The other fact is that, historically, the migrations and conquests of the tribal hordes out of which civilizations are formed, and the contact and conflict of the immigrating with the indigenous peoples, and of the successive waves with each other, have the effect at times of producing a retrogression in culture and intelligence, a slipping back towards the lower tribal level, for a period, until, in fact, the intercrossing has taken effect, and a new efflorescence of talent and culture begins. A striking example of this is the Indian culture after the Aryan invasion, in which the somewhat high level of the thought of the Aryan aristocracy as seen in the *Rigveda* is lost for a time in the jungle of native magic and priestly ritual; and the philosophic and mystical thinkers of the higher Hinduism and

Buddhism only appear after some hundreds of years.

Third, the ancient way in which civilizations were formed by tribal migrations, conquests, and intermixtures of races, need not be supposed to lay down the pattern for the present or future organization of human society. The method of warfare for accomplishing the welding of peoples, whatever may be said of it in the past, has now become, or is rapidly becoming, impossible, for the reason that the ordinary man in all the great nations is so generally acquiring the civilized self-consciousness and the sense of human dignity which will make him at last intolerant of being treated as a child, a slave or an idiot, especially by alien authorities. Hence the new method of racial crossing is that whose pattern is found in the United States of America, as claimed by President Roosevelt in a recent speech,³ namely, the welding of a homogeneous nation out of many racial varieties by peaceful association. It is curious to reflect that almost the requisite three or four hundred years have passed since the intercrossing began in America; and it is possible that the United States of America may be quite near to a brilliant efflorescence of genius in thought and art, and perhaps even more in the scientific organization of natural resources for the good of its own life and for the life of mankind. Finally I should like to guard myself against being supposed to trust to racial crossing as an infallible mechanism for producing human culture and progress, as (it is said) enlightened Victorians trusted to evolution. I venture to suggest that something more is necessary, which cannot be bred, but may be taught and acquired—I mean ethical idealism based upon religious philosophy.

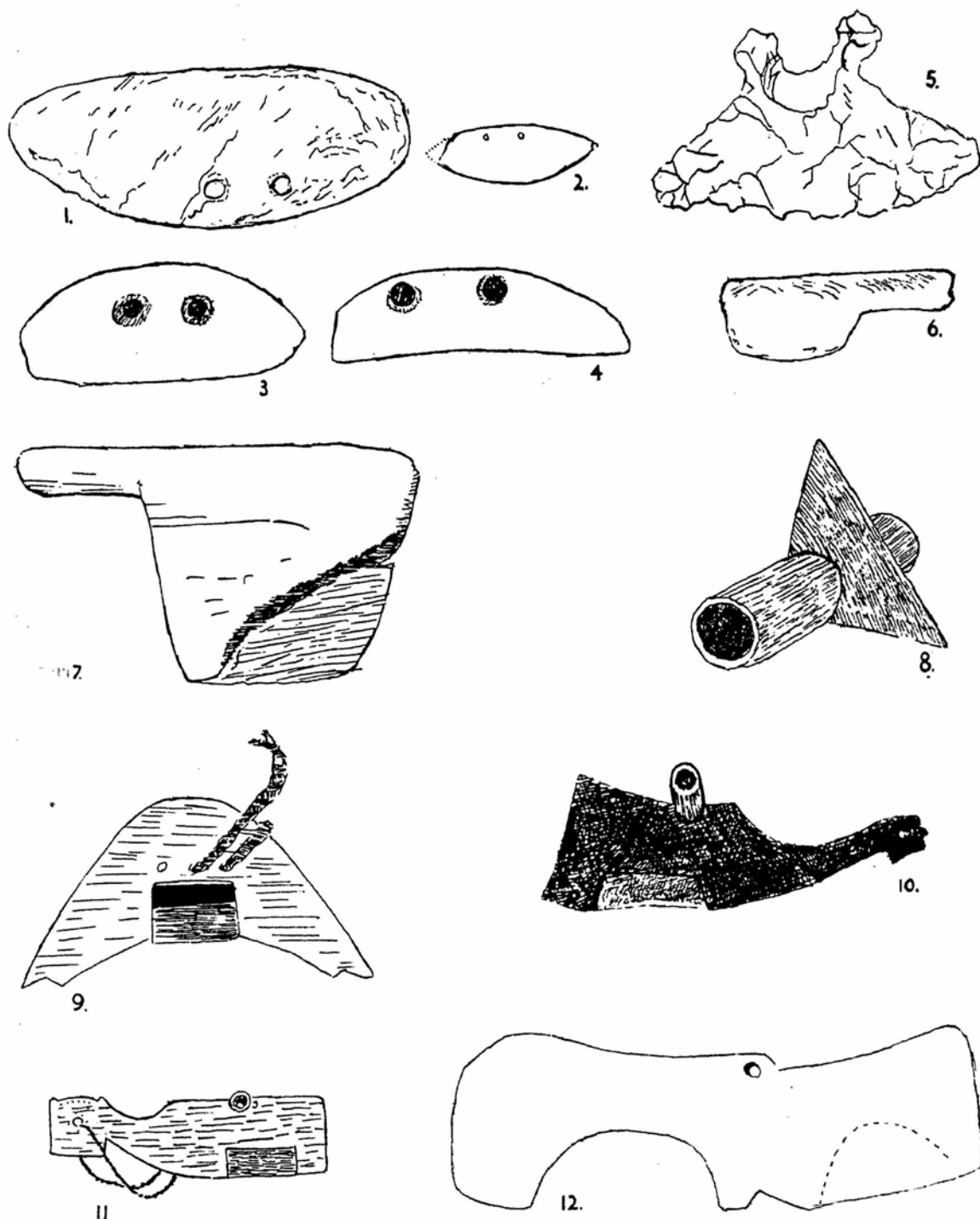
³ Quoted from the *Manchester Guardian*, 25 August, 1939.

SOME PARALLEL DEVELOPMENTS OF THE SEMILUNAR KNIFE. By Dr. F. B. Steiner. Illustrated.

3 Since Mason's classic^[9] on the *ulu* much attention has been given to the semilunar knife, and forms derived from it both in Asia and America, and for information concerning this subject-matter I am much indebted to Dr. H. Meinhard, Pitt-Rivers Museum, Oxford.

Mathiassen and others have classified the *ulu*-types; the semilunar metal *tumi* of Peru and similar Central American types have been

studied; Nordenskiöld^[12], p. 63] has convincingly traced back the rectangular hard-wood knife of the Chaco to the rectangular copper and stone knife of the ancient coastal civilizations thus incidentally connecting it with the related semilunar types as well; Krickeberg^[8], p. 365] has drawn attention to the *tumi* as being a North American element. New light has been thrown on the history of the semilunar knife



[The reference numerals in square brackets refer to the bibliography.]

1. Stone knife, Jap, neolithic, $\frac{1}{2}$ -size [11, Fig. 37].
2. Stone knife, Eastern Mongolia, much reduced [13, p. 42, Fig. 29].
3. Greenstone knife, China, Joho [1, Pl. I, Fig. 5].
4. Iron knife, China, Chili [1, Pl. II, Fig. 4].
5. Stone blade with two knobs, Jap. neol. [11, Fig. 35, 10].
6. Lateral stone knife, Jap. neol., $\frac{1}{2}$ -size [11, Fig. 39].
7. Prehistoric ulu handle, Polar Eskimo [15, p. 136, Fig. 16c].
8. Reaping knife, Celebes type, Central Celebes [4, Pl. IV, Fig. 25].
9. Reaping knife, North Siam, Kun-Fa [5, Fig. 10].
10. Reaping knife, Java type, Tonkin, White Thai [5, Fig. 9].
11. Reaping knife, Java type, Annam, Prov. Thanh-Hoá [4, p. 90, Fig. 27; 3, p. 217, Fig. f].
12. Prehistoric wooden knife handle, Pueblo Indians, Aztec Pueblo [10, Fig. 13].

by the excavations in Japan, Korea, Manchuria and Northern China. Torii [¹³, p. 42; ¹⁴, pp. 15, 22-23] has pointed out the close resemblance of prehistoric knives from Japan, Eastern Mongolia and Manchuria and the recent *ulus* of the Chukchee and Eskimo. Anderson [¹, p. 3] and v. Heine-Geldern [⁷, p. 595] have connected the surviving sorghum-knife of N. China with the knives of Yang-shao, and according to the latter the same origin has to be assumed for the Indonesian reaping-knife. Mme. Colani's publication [³] and three recently published articles by Th. Fischer [⁴, ⁵, ⁶] have confirmed v. Heine-Geldern's conjecture by providing missing links from Siam and Annam.

It seems that the semilunar and rectangular knife of Eastern Asia was from the beginning used as a harvest tool, a function which was maintained during its migration to Indonesia [v. Heine-Geldern ⁷].

The connexion between the Chinese neolithic and the Eskimo *ulu* remains still doubtful. Birket-Smith [², p. 107] assumes an independent origin for the *ulu*, but recent Russian excavations have definitely linked up the ancient Siberian coastal sites of the ice-fishing stage and their neolithic implements and pottery, with southern neolithic centres [Zolotarev, ¹⁶, pp. 14-16].

Being aware of the ultimate historical connexions of these types, we must, however, treat the coinciding similarities of derived forms as phenomena of independent convergence. I would like to discuss the following parallels:

I. *Lateral knives*.—A development results in the extension of the dorsal handle (at first symmetrical, then asymmetrical) so that it becomes in fact a lateral handle. Lateral knives have been used by the Yakut [Birket-Smith ²]; lateral stone knives with blade and handle made of one piece are known from Japanese neolithic sites where they were found together with dorsal knives [Munro, ¹¹] see Fig. 6. As to the Eskimo, the knife with lateral handle, according to Birket-Smith [²] is "only known from the west and in 'large numbers only seems to be present in the 'Yukon-Bristol Bay region.'" But an intermediate type with extended dorsal handle is fairly common among the Pacific and Asiatic Eskimo; e.g., the specimen described by Mason [⁹, Pl. LXII, Figs. 1 and 2, Pl. LXX, Figs. 2 and 4]. This would bear out the assumption of independent

developments of different lateral types in different parts of the Arctic and would tell against Birket-Smith's suggestion [²] that the lateral Eskimo knife is a late introduction from Asia. There is, furthermore, a find worth mention, made in Polar Eskimo sites. It is a half of somewhat unique appearance, Fig. 7. Wissler [¹⁵, p. 134] describes it as "a curious type of handle." "The specimen is in a very fragile condition, but it seems to have had a blade inserted in "a groove at its lower edge, suggesting an *ulu*."

II. *Knives with two knobs or arms*.—Among the unpolished and unperforated Japanese neolithic blades (not for agricultural use?) to be inserted in dorsal handles, Munro [¹¹, p. 128] mentions the type with two knobs for this purpose, as less common than the others. An implement of similar appearance is the two-armed *ulu* which is 'principally restricted to Angmagssalik.' [Birket-Smith ²]. Porsild, Mathiassen, and Birket-Smith have ascertained that of all dorsal woman's knives 'the least serviceable form is 'that of which the handle is placed directly 'upon the back of the blade without a tang,' and that this type is chronologically the oldest, whereas both the one-armed and the two-armed *ulu* are later developments [²]. Thus the two arms of the East Greenland *ulu* function quite differently from the two knobs of the Japanese knife; these perhaps had been wholly inserted in the handle.

III. *Pistol-shaped handles*.—We can recognize four types of reaping-knives in South-Eastern Asia. One of them, until now reported only from Siam, has the blade stuck in a bow-shaped wooden setting, which the hand can hold in a firm grip, and which is perforated for the wrist-cord to pass through (Fig. 9). Two other types Th. Fischer has classified as Celebes and Philippine types; their blades fit directly and at a right angle in a stick (bamboo). The fourth type is called Javanese by Fischer. It combines features of the other types. The stick, of types 2 and 3, transverses the setting, and simpler sub-types have the setting extended into a handle, through the end of which passes the wrist-cord, as in type 1. This last variety has been paralleled by specimen from Annam [Colani, ³, p. 219; Fischer, ⁴, ⁵, ⁶]. It is either bird-shaped, the perforated end being the bird's head [³], or pistol-shaped, a form which probably developed

from over-stylized bird-shaped handles. The bird-form has been explained by the legendary rice-birds who taught people how to cut rice [Fischer, ⁴, p. 94].

I would like to point out the striking similarity existing between these pistol-shaped forms (Figs. 10 and 11) and an unusual knife-handle, excavated at Aztec Pueblo (Fig. 12). "It consists," says Morris [¹⁰, p. 33] "of a single piece of wood with the slot for the insertion of the blade in one edge instead of in the end. A blade with

"lateral notches . . . must have been fitted to this haft. At least the diagonal marks of lashing crossing the wood on both sides of the slot strongly suggest an attachment of the blade by passing the lashing through notches on the side." It is very likely that this tool was provided with a wrist-cord. The wrist-cord—mostly fastened to weapons—is peculiar to areas south of Pueblo culture, and the perforation, if intended for a strip for suspension, would not be well placed where it is.

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FURTHER NOTES ON THE USES IN SPAIN OF PREHISTORIC STONE IMPLEMENTS AS AMULETS. By W. L. Hildburgh, Ph.D., D.Lit., F.S.A.

4 In "Stone Implements presumably used as 'Amulets in Spain' (MAN, 1938, 17), I described and illustrated some stone implements mostly (if perhaps not all) of prehistoric origins, and gave some notes concerning their presumable uses as amulets in Spain. I am now able to add to the material there printed some further notes, in part relating to the subject in general, in part seemingly, to at least some extent, explanatory of a curious matter to which I there called attention.

The apparent rarity of thin-bladed implements (arrow-points, spear-points, knives, and the like) made of silicious stones, among stone implements used as amulets in Spain, seems rather odd. Elsewhere—e.g., in Italy—the employment of thin-bladed implements as amulets parallels that

of the thick types (axes, adzes, etc.). In Spain, however, such employment appears to be, for some reason, comparatively very rare; indeed, I do not recall having seen a thin-bladed implement mounted for use as an amulet in Spain, nor any unequivocal printed record of such.

Stone Implements as Amulets.—Nevertheless, I can present a little circumstantial evidence suggesting that in Spain thin-bladed implements have in some circumstances been looked upon as protective. Thus, the Pitt-Rivers Museum's group of silken objects, presumably amuletic, in the forms of prehistoric stone implements, includes 'a replica of a tanged-and-barbed neolithic arrowhead' and an object which 'has the form of a stone arrowhead with lateral basal notches

a type rare in Europe, though very common in 'North America.'¹ Some rather confused remarks concerned with beliefs in Galicia further suggest the same possibility:—'Some people preserve these stones ['Some small round stones, variegated (or 'veined,' or 'speckled') and 'porous, that are found usually (or 'frequently') 'on the banks of streams'] as objects of great value, and there are some that seem properly to be arrowpoints of remote times. To stones that lightning has marked, identical properties are likewise attributed.'² The mention here, in the same context with what would appear to be neolithic arrowheads—which in other countries are used for preservative or for curative purposes—of stones which have been *struck* by lightning is peculiarly interesting.

An agate amulet in my possession (bought in Madrid and unique, so far as I know) may perhaps be regarded as yielding further testimony in the same direction. This amulet consists of a plano-convex disk of streaky reddish and yellowish agate, so mounted in silver that it may be tied firmly in position on the skin, displaying in its slightly convex face a greyish marking whose shape is much like that of an arrowhead, and, below this, another somewhat similar marking which reappears on the flat face in a form distinctly recalling that of an arrowhead. What was the particular curative purpose of this amulet I do not know; since, however, objects made of red and yellowish agates appear to have been used for matters connected with the blood, it would seem probable that the present object's primary purpose had to do with the blood. It may well be, nevertheless, that the unusual markings in question were believed to confer exceptional properties upon the stone; chialtolite, a stone which commonly displays a cross in its natural structure, gives us a Spanish example of the habitual attribution of amuletic virtues to

a stone because of natural markings characteristic of it.³

Although they appear rarely to have been utilized as amulets in Spain, thin-bladed implements which could lend themselves excellently to such use are common enough there. In at least certain regions of Italy, however, such implements have been habitually used as amulets, both for preservation from the effects of lightning and for remedial purposes 'in sicknesses' and the effects 'of malevolent actions, particularly those brought about through the work of witches'; in 1898 Bellucci had in his collection of Italian amulets more than forty thin-bladed prehistoric stone implements—most of them mounted in metal or preserved in little bags—which had been used in Perugia and the region about that town.⁴ Etruscan amuletic employment of such implements appears to go back to about 1000 B.C.⁵; and in Umbria it continued, together with that of polished stone implements, through Roman times into our own. So many of the contemporary Italian amulets, of various kinds, recorded by Bellucci parallel precisely contemporary Spanish amulets, that we might well expect to find the amuletic employment of thin-bladed stone implements common in Spain—if perhaps not indigenous, then brought in with the many other imported features of the Roman civilization. That I have not been able to discover it may perhaps be due to its presence only in some inconspicuous form. It may be that, for example, the implements are merely hung from cords, or

³ A piece of chialtolite mounted as an amulet is reproduced in my 'Notes on Spanish Amulets (Fourth Series),' in *Folk-Lore*, xxvi (1915), p. I (fig. 23, pp. 408 f.). In 1915 Messrs. Liberty, of London, placed on sale a large number of pieces of jewellery made (in England) of chialtolite mounted in gold or in silver, and advertised them as 'Old-World War Charms Mounted in Gold and Silver: Chialtolite Stones found in Andalusia and greatly venerated in the Middle Ages as they bear natural crystalloid markings of the Holy Cross.'

⁴ Balfour (*l.c.*, p. 47) speaks of the employment of 'thunderbolts' for preservation against sicknesses, and for their cures, as 'very widely diffused.'

⁵ Bellucci, G.: *Amuleti italiani contemporanei*, Perugia, 1898, Tavole I and II. In addition to these he obtained, before and after that date, many others which he gave to, or exchanged with, museums or persons interested in amulets.

⁶ Blinkenberg, C.: *The Thunderweapon in Religion and Folk-Lore*, Cambridge, 1911, p. 29; on p. 28 he reproduces one mounted in silver and another in gold, from Etruscan graves of about the fifth century B.C.

¹ Balfour, H., 'Concerning Thunderbolts,' *Folk-Lore* xl (1929), p. 172. The group is attributed to Eastern Catalonia and about the middle of the seventeenth century.

² Rodríguez López, J., *Supersticiones de Galicia* (2nd ed.), Madrid, 1910, pp. 146 f. 'Algunas personas guardan estas piedras ['Algunas piedras redondas, pequeñas, jaspeadas y porosas, que se encuentran generalmente á orillas de los ríos'] como objetos de gran valor, y las hay que propiamente paracen puntas de flechas de los tiempos remotos. A las piedras que mancha el rayo, les atribuyen también idénticas propiedades.'

enclosed in little bags, and have not been mounted in metal for use as pendants. I think, on the other hand, that in Spain small prehistoric implements (or images of implements, or objects wrongly presumed to be prehistoric implements) of the celt-types may perhaps have taken the place occupied in Italy by the thin-bladed types; for whereas in Spain such celt-type objects appear to have been fairly commonly used as amulets for carrying on the person, none of the twenty-eight celt-type implements catalogued in Bellucci, *Amuleti italiani contemporanei*, Tavola III, whether mounted in metal or merely perforated for suspension, seem to have been intended for regular and continued wear on the person.

Stone Implements and Lightning.—To the references in MAN, 1938, 17, to Spanish beliefs associating stone implements with lightning, I am able to add some others. In the mountainous districts about Toledo there is a 'fervent cult' of neolithic axes as extremely efficient protections against the deadly actions of lightning; the peasants preserve with loving care [*amorosamente*], in their houses, the stone axes ['of all 'sizes, colours, and stones'] which they find in their fields, in the firm belief that lightning will not injure those houses, nor the persons living in them, nor their beasts. In the district of San Pablo de los Montes, people carry stone axes in their pockets, so that 'nothing should happen 'to them should there be cloud' ['*para que no les ocurra nada cuando haya nube*'],⁷ as they say; 'this belief seems to exist in all the pueblos 'of the province of Toledo, but it is strongest 'in the mountainous districts and may have 'spread from them to the other localities where 'it is to be found.' In that province the stone axes ['of stones like diabase, slate, serpentine, 'fibrolite, etc., from the mountainous zone of the 'district'], would seem to have no application other than the one above mentioned.⁸ In the Sierra del Guadarrama (the Guadarrama river

flows from the province of Madrid to join the Tagus in the province of Toledo) 'an axe made 'of black stone, or painted black, is called a 'rayo negro,' and serves as an amulet for good 'luck' ['buena suerte'].⁹

It has been reported that, in the mountainous districts of Catalonia, stone axes are, to some extent, venerated, and are supposed to possess the virtue, among other virtues, of protecting from lightning the houses wherein they are retained.¹⁰ In Asturias the country-people call a neolithic celt a '*pedra del rayu*,' and ascribe to it a celestial origin and supernatural powers; and they believe that if such a stone be kept in a stable, a cow which conceives in its presence will bear a heifer, and that if the udder of one afflicted with udder-trouble be rubbed lightly with a stone of the kind which has been wetted with milk, the affliction will be cured.¹¹ In a dolmen in the Basque country, a polished stone celt was discovered, apparently associated with bronze im-plements,¹² so small that it could hardly have been utilized 'si no es para fines magicos,'¹³ recalling

⁹ *Id.*, p. 11, quoting Bernaldo de Quirós, C., 'Folklore 'y arte popular en la Sierra del Guadarrama,' in the review *Peñalara*, Madrid, 1928, no. 175, p. 140. It would seem likely that, whatsoever may have been the original idea behind the attribution of special virtues to such black (or blackened) celts, the present one that they are amulets to secure 'good luck' is a degenerate one; it is a usual fate of obsolescent amulets, which through habit or tradition continue in use after their original intentions have been forgotten, to be worn 'for good luck.'

¹⁰ J. M. de Barandiarán, *Paletnografía vasca* (reprinted from *Euskalerriaren alde*), San Sebastian, 1921, p. 42. He states that he is quoting a citation of Pella y Forgas, *Historia del Ampurdan*, given in Menéndez y Pelayo's *Historia de los Heterodoxos Españoles*, i, p. 152; unfortunately, I have been unable either to find the citation on the page mentioned or to consult a copy of the *Historia del Ampurdan*.

¹¹ A. de Llano Roza de Ampudia, *Del folklore asturiano*, Madrid, 1922, p. 132. He comments on this, to the effect that, although any similar massage is likely to cure the udder-trouble, the people ascribe a beneficial result to the virtues of the '*pedra del rayu*.'

¹² 'En los dólmenes . . . había bastantes armas de la 'primera edad de los metales y en el de *Pagobakoitza* 'hallamos además una hacha de piedra pulimentada 'que . . .'

¹³ de Barandiarán, *op. cit.*, p. 43, quoting from *Euskalerriaren alde*, ix, p. 249. Similarly small objects having the forms of prehistoric stone implements, and clearly made for amuletic purposes or for use as ornaments, and not for use as tools, occur in a number of other parts of the world.

⁷ The way in which this is expressed suggests a fear of, a sort of taboo upon, the naming of storms or of lightning. Analogous fears are common and widespread; Frazer cites many, among which is one on the word for lightning, from Madagascar (*Taboo*, London, 1914, p. 401). Again, it is said that in the West Sudan the word for 'thunderstone' is avoided in winter, lest pronouncing it 'may attract the lightning' (Blinkenberg, *op. cit.*, p. 120).

⁸ Ismael del Pan, *Folklore toledano*, i, Toledo, 1932, pp. 8 ff.

to us the tiny celt shown in my article, MAN, 1938, 17, fig. 9. It is said that in Andalusia 'La piedra del rayo' delivers whosoever has it from *las exhalaciones*.¹⁴ Mentioned as one of a mixed lot of amuletic objects—which in reality were used for purposes of varied kinds—ironically suggested as being more useful than certain ceremonies of a religious nature, for preservation against *bruxos*, is 'La piedra del rayo'¹⁵ the suggestion implies that 'thunder-stones' were used as protective objects (and the context intimates presumably for children), but unfortunately it does not tell us against what specific form (or forms) of evil they were so used.

Two examples of Spanish neolithic celts recorded as bearing markings unrelated to their primary uses may here be recalled; both are in the Archaeological Museum in Madrid. One of these is small, made of lydite, and has little irregularly-circular markings cut in its surface; the other, found at Villaviciosa de Odón, in the Province of Madrid, is of ophite, is polished in parts, and has been line-engraved with the head and shoulders of a Roman warrior.¹⁶ In connexion with the former, Cabré remarks that the significance of the little circles is not known, but as perhaps the object was a votive-offering, the circles had to do with its use as such, and he recalls that small circles, engraved or painted, are one of the features of the rock-art of Spain. In connexion with the latter, he says that although certain details of the delineation throw some suspicion on a Roman origin of the engraving, there are reasons also for thinking that

¹⁴ Guichot y Sierra, A.: 'Supersticiones populares andaluzas,' in vol. i of *Biblioteca de las Tradiciones Populares Españolas*, Madrid, 1884, p. 218. I have some reason (a note, from an article by Ismael del Pan, which uses the expression 'caer alguna exhalación' with reference to lightning) to think that 'las exhalaciones' here refers to the thunderbolts themselves—possibly they may be regarded as 'exhalations' from the clouds (cf. *n. infra*)—but I think, also, it perhaps possible that it is used in its ordinary sense of 'exhalations' or 'vapours', accompanying the thunderbolt.

¹⁵ Gines de Posadilla's annotation of *Auto de Fe celebrado en la Ciudad de Logroño . . . 1610*, Madrid, 1811, p. 64.

¹⁶ Cf. Cabré Aguiló, J., 'Objetos con grabados e ídolos prehistóricos del Museo de Antropología de Madrid', in (1924) *Actas e Memorias Soc. Española de Antrop. Etnogr. y Prehistoria*, comunicación no. 35, pp. 91 ff. and 102; both objects are illustrated in half-tone and in line-engraving.

the engraving may indeed be contemporary with its subject.

In his encyclopedic *Etymologies*, written between A.D. 622 and 633, Isidore of Seville says¹⁷ that a kind of *ceraunia* is found in Hispania, on the shores of Lusitania, and that 'Haec adversus vim fulgurum opitulari fertur, si credimus'; this, however, he describes as a kind of shining red carbuncle, and not as a stone axe. But as he says further that 'Dicta autem ceraunia quoniam alibi non inveniatur quam in loco fulmine isto proximo; Græce enim fulmen kepaúvās dicitur,' it would seem probable that he has confused certain of the stones Pliny spoke of in his *Natural History*.¹⁸ In a Spanish manuscript of the fifteenth century, in the British Museum (Hs. Add. 21245), an unknown writer¹⁹ who draws on both the eleventh-century lapidary of Marbode (which is in part taken from Isidore) and directly on that of Isidore, in speaking 'Del Ceraunio, que en otra manera se dize Rayo,' tells us that, when there is lightning, a small stone falls from the sky and (although perhaps he is referring merely to what 'los Griegos' asserted), 'He who chastely bears this, will not be struck by lightning, nor the house, nor the town, where this stone may be, nor by the dangerous whirlwind. And thrown about the sea or about a river, the vessel will not sink, nor will it be struck by lightning. It is useful likewise to win lawsuits or battles, and it brings about sweet dreams and gladnesses.'²⁰ Although the writer mentions only the two kinds of *ceraunia*—neither of which is a stone implement—which Isidore describes, the passage is interesting to us as showing what could be expected of a 'thunderbolt,' and what in medieval Spain very probably was actually expected of one, even if it were not a 'thunderbolt' of the particular kinds described by Isidore and those who based their writings on his.

In Asturias there is a belief that when a

¹⁷ XVI, xiii, 5.

¹⁸ Pliny, N. H., XXXVII, 51, 48. Cf. Bohn's ed. (by J. Bostock and H. T. Riley), London, 1855-57.

¹⁹ Cf. K. Vollmöller, *Ein spanisches Steinbuch*, Heilbronn, 1880, p. 28.

²⁰ 'El que castamente aqueste traxiere, no sera ferido de rayo, ni la casa, ni la uilla, adonde aquesta piedra estoniere, ni por el toruellino peligroso. E lançado por el mar o por el rio, no sera sumido el navio, ni sera ferido de rayo. Aprouecha assimismo para uencer las causas o batallas, e administra dulçes sueños e alagres.'

'thunderbolt' falls during a storm it buries itself 'siete estados' in the ground, and then rises one 'estado' each year, until finally, 'changed into a stone which is called "piedra del rayo,"' it appears on the surface at the place where the lightning struck.²¹

In the pueblo of La Guardia, in the province of Madrid, it is believed that the *piedras de rayo* come in the force [or 'violence'] of the clouds and are taken from the sea; then the clouds disperse them on the land whereon they fall, and at the end of seven years they come forth from the ground.²²

Stone Implements set point upward.—In MAN, 1938, 17 (pp. 19 ff.), I drew attention to the unusual position—that is, with the cutting-edge upward, instead of downward as seemingly almost invariably elsewhere than in Spain—of the celts in several of the amulets there reproduced. The amulet, of fig. 7, appears to consist of the remains of a small celt, made of a honey-coloured chalcodony, mounted inverted in a silver frame; the amulet, of fig. 8, is a small fibrolite celt, mounted inverted in a silver frame; and the amulet of fig. 11 is an ancient small bone pendant on whose front is carved, in about half-relief, a celt with its cutting-edge upward. When that article was printed, I was unable to offer a satisfying explanation of this exceptional feature of Spanish celt-amulets. I have since then learned of a custom of Spanish Basques which seems as if it might well be the reason for the practice—and in this connexion it is perhaps worth recalling that the second of the amulets just cited was bought in San Sebastian and consequently most probably had been in use in the Basque country thereabout. The two others were bought in Madrid, and their original provenance is consequently uncertain.

The Spanish Basques, during a thunderstorm, set a metal axe, cutting-edge upward, beside the doorway, in order to protect a house from being struck by lightning; in some localities it is

believed that the axe 'parte el rayo.'²³ In some districts it is considered that similar protection may be obtained from a pair of scissors, or a sickle or a scythe—all objects which it should be observed, are sharp-edged implements made of iron—in the place of an axe.²⁴ De Barandiarán says, also (p. 44), that a shepherd discovered, at the entrance ('umbral') of a certain cave in one of the Basque mountainous districts a celt ('? of bronze') which, it was related, had been thrust into the earth in the same position as that in which the Basque country-people of to-day set their iron axes during storms. It would seem probable, therefore, that the practice of mounting celts, for carrying on the person, in an inverted position derives from the custom of setting analogous weapons with their cutting-edges upwards as protections against lightning; and, further, that that custom has been based on a notion that lightning-stroke is a result of *personal* action on the part of some supernatural being (and not in reality on an idea that the sharp edge will split the thunderbolt). For, on the one hand, weapons (or images of weapons) are widely used throughout the world as protections against evil supernatural beings of all kinds, and, on the other hand, the Spaniards share the common European belief that storms are produced by demoniacal creatures of the air.²⁵

In a footnote de Barandiarán says (*l.c.*, p. 42) that 'It is curious to observe that among the Basques the "piedras del rayo" seem scarcely to be known, and that where they are known, a true view of their real nature has not been lost, for they are called "hachas de los antiguos." Since, in most cases, stone celts are in form unlike corresponding metal objects of modern usage, I surmise that the Basque terming of them "hachas de los antiguos" is more probably due to some fairly recent introduction of instructed views, as to their origin, than to tradition; and that formerly neolithic celts were regarded in the Basque districts—as generally they were regarded elsewhere—as of origin other than human. And, further, that while it may indeed be that iron appears as it does, in the above-mentioned Basque practices for protection against lightning, merely because sharp-edged implements are

²¹ Cf. L. Giner Arivau (pseudonym of E. de Olavarria y Huarte) 'Folk-Lore de Proaza' (Asturias), in 'Bibl. de las Trad. Popul. Españolas,' viii, p. 268. Similar beliefs occur in many parts of the world; cf. Blinkenberg, *l.c.*, p. 121.

²² I take this to be the meaning of the somewhat confused statement recorded in 'Cree el pueblo que vienen en la fuerza de las nubes y las toman del mar. Luego las nubes las disipan en el terreno donde caen, y a los siete años se salen fuera'; cf. del Pan, *l.c.* p. 10, n.

²³ de Barandiarán, *l.c.*, p. 42.

²⁴ *Ibid.*

²⁵ For example, Rodríguez López, *l.c.*, p. 148, with some Galician practices based on this belief (pp. 147ff., 160).

to-day made of iron, it so appears rather because of the widespread (even so far to the East as Japan), and consequently presumably very ancient, associations between lightning and iron. Iron may well long have been regarded as containing something very like lightning, for sparks may be struck from it; and meteoric iron, when

seen to fall with a flash accompanied by a noise resembling thunder, probably helped to substantiate beliefs of the kind. Thus it may be that iron came, because of those associations, to be employed homœopathically—just as prehistoric stone implements were employed homœopathically—as a protection against lightning.

THE CASTING-STAFF USED BY HUNGARIAN HERDSMEN AND ITS ETHNOLOGICAL SIGNIFICANCE. *By Dr. Béla Gunda, *Ethnographical Museum, Budapest, Hungary. Illustrated.*

5 Casting-staves were used by Hungarian herdsmen even 30-40 years ago. They never went without them, they wore 5 or 6 bound to the rope-snare at their sides (fig. 1).

The casting-staff is a rounded wood-cudgel, 65 cm. in length and 5 cm. in diameter, made of some hard wood, pointed at both ends, which were burned in fire to make them more durable (fig. 2A). Using the casting-staff they took it at one end and so were able to throw it at a distance

of 50-100 paces. Generally they used it in fighting with each other, or against wolves which attacked their herds. But also cattle thieves were armed with casting-staves and in the dark they threw it in the direction of the voices uttering fierce war cries. We know that the use of the casting-staff appeared first on the two great territories of the Hungarian Plain: the Great- and Minor-Kunság, in both of which pastoral life was the characteristic condition.

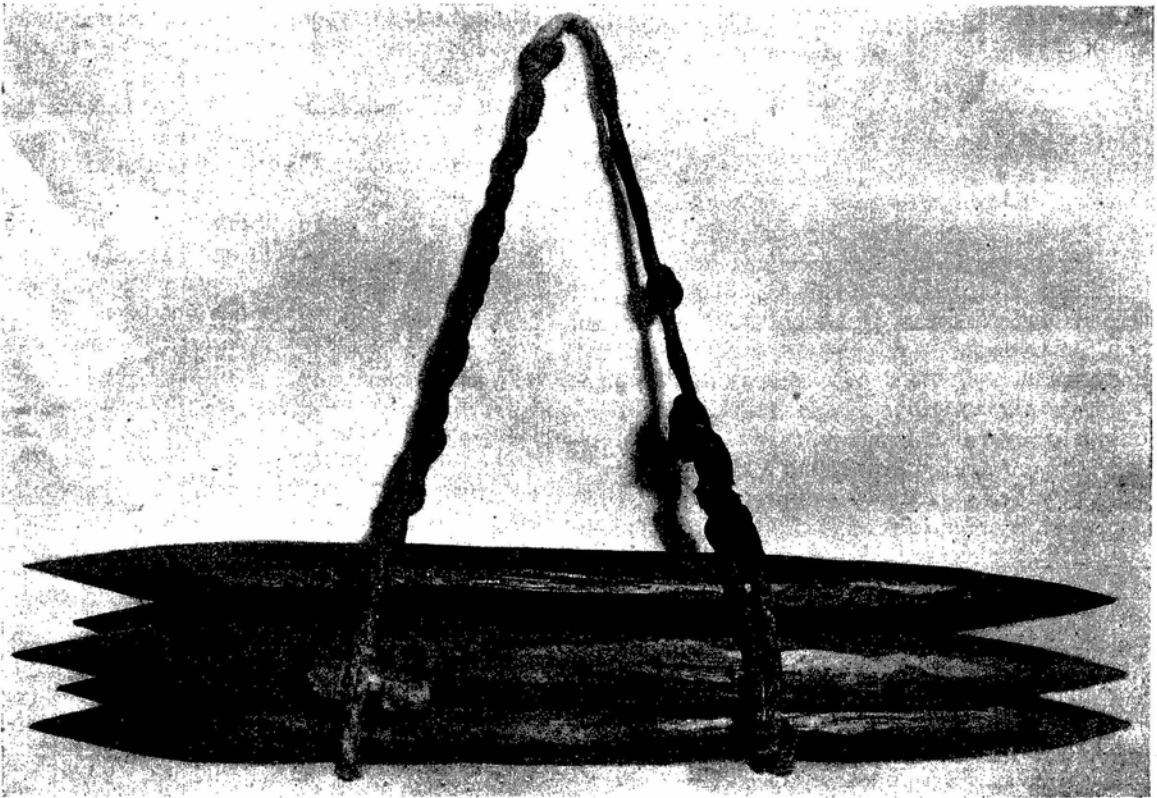


FIG. 1. CASTING STAVES OF THE HUNGARIAN HERDSMEN; MINOR-KUNSÁG.

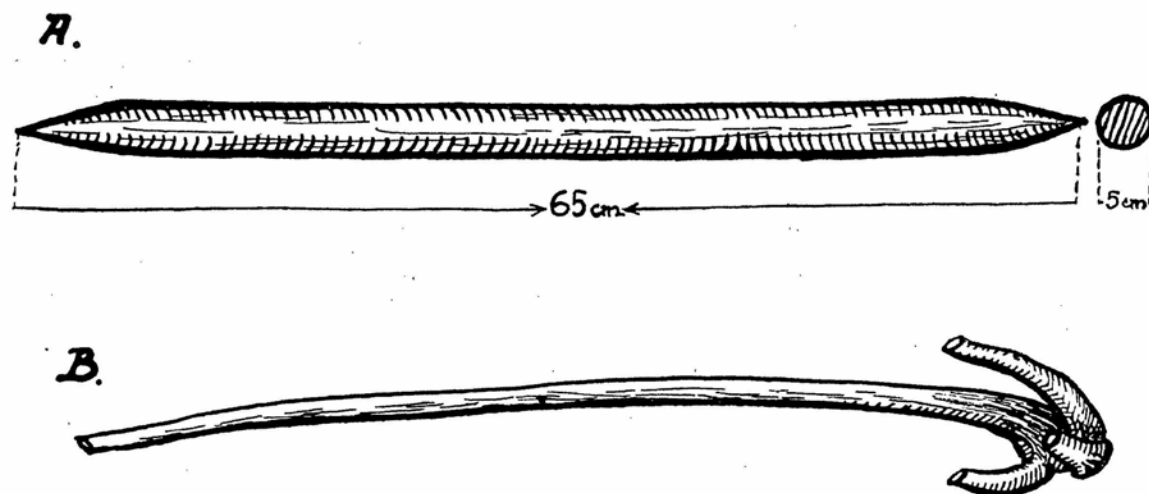


FIG. 2. A.—CASTING STAFF OF THE HUNGARIAN HERDSMEN, MINOR-KUNSAĞ.
B.—CASTING STAFF OF THE DOLAN PEOPLE, EASTERN-TURKESTAN.

And there are literary reminiscences from the sixteenth century about the use of casting-staves by Hungarian herdsmen.¹

This simple implement deserves our attention first of all from an ethnological point of view; casting-staff and boomerangs of all kind were used in Europe in prehistorical times,² even later ethnological literature makes mention of them,³ however, the Hungarian features of the casting-staff are quite different. Yet it is remarkable, that the same casting-staff as used by Hungarian herdsmen occur on the Malay-Peninsula and on the Borneo- Marshall-, Gilbert-, and Yap-Islands.⁴ According to the opinion of a Hungarian ethnologist, Zs. Bátky the Hungarians brought the casting-staff from the East its ancient home being the great steppe-territories of Asia.⁵ Though Mr. Bátky fails in proving strict analogies, yet his opinion seems very plausible as the social organization and civilization of the Hungarian herdsmen show the marked Eastern character of the horse-nomads in many other respects, too.

Presuming the Eastern origin of the casting-staff, it is most likely that similar hunting- and war-implements were used by the Asiatic nomad people. Probably they can be connected with the Indonesian-Micronesian casting-staves which were pointed also at both ends. And this connexion may be placed in the same great prehistoric-ethnological culture-frame to which belong the conformities of the Asiatic nomad cul-

tures and of the Oceanic culture of the Further Indies.⁶

The following figure (fig. 2B) shows a casting-staff found by a Hungarian scientist among the Kara-Kirghiz. It is made of a root and the Kara-Kirghiz could hit with it birds or marmots at a distance of 30-40 paces.⁷ According to von Le Coq similar casting-staves were used by the Dolan people of Eastern Turkestan.⁸

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ROYAL ANTHROPOLOGICAL INSTITUTE : PROCEEDINGS.

The Badui, A Primitive Tribe of Western Java,

6 Summary of a communication by Dr. August Muhlenfeld, Director, West Indies Division, Netherlands Colonial Office: 10th December, 1940.

Of the 45 million inhabitants of Java, the majority are Javanese proper, and about 15 million consist of Sundanese and Madurese; while there are also some small, isolated groups in the mountains, the most interesting of which are the Tenggerese, numbering about 20,000, in the East, and the 1,500 Badui, in the West. These groups have resisted the Mohammedan creed which conquered the rest of Java in the sixteenth century, and still remain faithful to the main traits of the earlier culture, characterized by animism and ancestor-worship, with an overlay of Hindu and Buddhist customs and beliefs.

When holding official posts in Eastern Java, Dr. Muhlenfeld came into contact with the Tenggerese. He witnessed the festival which they hold yearly beside the crater of Mount Bromo, and also their Festival of the Dead. On his initiative, a decree was issued, recognizing the Tenggerese priests as religious chiefs for the purposes of customary law, in order to eliminate the confirmation of marriages and divorces by a Mohammedan official, previously obligatory, and thus to give the Tenggerese more self-respect, and their culture a greater chance of survival.

The history, religion, and social organization of the Badui, in Western Java, were described in greater detail, with quotations from Dr. B. van Tricht 'Levende Antiquiteiten in West Java,' *Djâwâ*, 1929, IX, 2 and 2, pp. 43-111.

In 1931, while Dr. Muhlenfeld was Director of the Department of the Interior of the Netherlands East Indies, a member of the Forestry Service submitted a proposal for transferring the Badui *en masse* from their mountain refuge to a peninsula, off south-western Java, with the object of safeguarding the neighbouring lowlands' water supply, which was apparently endangered through the

deforestation caused by the primitive agricultural methods of the Badui. Fearing that such a drastic measure would mean the physical, as well as cultural, extinction of the isolated, ultra-conservative Badui, Dr. Muhlenfeld, and also the Governor of West Java, decided to visit the Badui themselves, to assess the situation carefully.

They found the Badui preserving many customs of their ancestors of the sixteenth century Sundanese, and jealous of their seclusion. The nobles of the inner villages (*kadjeroan*) and the forbidden sanctuaries were protected by particularly strict taboos (*buyut*) from contamination by the outside world. Lying, theft, and adultery were quite unknown, and life was guided by stern religious precepts.

The official visitors concluded that transplantation to strange surroundings would indeed prove fatal. Plans for an alternative solution to the irrigation problem were therefore drawn up; some marginal Badui land could, it appeared, be exchanged with adjacent areas in such a way as to ensure the lowland water supply, yet leave the unique Badui undisturbed.

Publication of MAN, 1941.

7 The Council has agreed that in view of the need for economy of paper, MAN shall be published in 1941 in bi-monthly parts. The general arrangement of each part, and the subscription price—for Fellows of the Institute, ten shillings; for others, one pound—will remain as before. The number of pages and of illustrations must depend on the income from subscriptions.

On the maintenance of MAN depends the Institute's ability to obtain by exchange many of the smaller anthropological periodicals; and provision must be made for overtaking arrears of such exchanges when conditions become normal.

Subscribers are therefore invited to renew their subscriptions, and also to obtain additional support, both from Fellows of the Institute and from others.

OBITUARY.

John Ranulph de la Haule Maret, 1900-1940.

8 Lt.-Comdr. John Ranulph de la Haule Maret, R.N., son of the Rector of Exeter, was reported missing, presumed killed in action, when his ship H.M.S. *Glorious* went down. A career of great promise for anthropology, interrupted at a crucial point by his country's need, was thus cut short at the age of forty. Maret had served in the navy during most of the war of 1914-18 and rejoined it at the outbreak of this war.

On retiring from the navy, Maret took up farming in Jersey, concentrating on the care of a famous herd of Jersey cattle. As a practical breeder with a scientific bent of mind, he was led to study the

relationship between the genetic characteristics of Jersey cattle and their peculiar natural environment, and his articles on animal genetics in *The Island Cow*, a local journal which he edited, attracted much attention among experts abroad. His experiments led him to the theory that the special characteristics of the Jersey herd could best be explained as a compensation for calcium deficiency. Jack Maret was not one to be deterred by discovering that his views were unorthodox. He determined to pursue the problem further and therefore, encouraged by his father, came up to Oxford to read for the B.Sc. in anthropology. The result of these researches was his Book, *Race, Sex and Environment*, 1935, in which he set out, with a wealth of documentation, his

theory of the influence of mineral deficiency on bodily and mental evolution in man. The book was received with keen interest and aroused a vigorous controversy amongst the specialists.

In 1937 a splendid opportunity to prosecute his research in social biology came to Marett when he was appointed by the Ceylon Government to make an anthropological survey of that island. With the advice of E. A. Hooton, Marett drew up an elaborate

plan of investigation, embracing anthropometric, physiological, and sociological observations and measurements. He had made considerable progress with this research when the war broke out and it is to be hoped, in the interests of anthropological science, that the results will be published when circumstances permit. The Ceylon Government will no doubt make arrangements for this, when it becomes possible again. M. F.

REVIEWS. SOCIOLOGY.

The Study of Society, Methods and Problems.

9 Edited by F. C. Bartlett, M. Ginsberg, E. J. Lindgren and R. H. Thouless. London (Kegan Paul), 1939. xii + 498 pp. Price 12s.

Four hundred and eighty pages of methodology presented in the form of individual contributions by seventeen authors are not easy to digest, and still less, owing to the unevenness of the contributions, to describe. This is perhaps inevitable in a work that seeks to supply for Sociology what *Notes and Queries on Anthropology* began to do nearly sixty years ago for that science at a time when it was struggling to emerge from a collection of disconnected facts to the systematic study which it now is. The present volume was conceived in 1935 by a small group centred chiefly on Cambridge, but including members from other universities and research institutions, to discuss what steps could be taken to 'direct the application of the more reliable methods of psychology, anthropology and sociology to a study of the problems of complex societies' such as our own. Since 'free, frank and exhaustive discussion' was considered essential and could be obtained only by restricting numbers within certain definite limits, 'no effort was made to organize a large or completely representative group,' but to make up for this a system of cross-references has been introduced in order to bind the individual contributions together into something resembling a consecutive whole.

The emphasis is on the discussion of problems rather than on the presentation of facts, and at the same time the student is provided with material to pursue further studies for himself, each article being followed by an extensive list of references and suggestions for general reading.

The subject-matter is divided into four parts, of which the first is devoted to some problems of social psychology, with contributions from Professor Pear, Professor Bartlett, Dr. MacCurdy, Dr. Collins, and Dr. Thouless. This is followed by Part II dealing with specialized techniques, beginning with a second article by Dr. Thouless on the use of statistics, and continued by Dr. Blackburn on intelligence tests. Dr. Nadel on the application of such tests in field anthropology, Dr. Vernon on questionnaires, attitude-tests and rating-scales, Dr. Earl on methods of assessing temperament and personality, and Mr. Rodger on the work of the vocational adviser. Part III consists of three articles by Dr. Richards, Dr. Nadel and Dr. Lindgren on methods of social anthropology, and Part IV of contributions on some methods of sociology by Miss Clement Brown on social case work, Dr. Oeser on team work and 'functional penetration,' Mr. Farmer on social groups in industry, Mr. Wells on social surveys, the whole being wound up by a philosophical essay by Professor Ginsberg on problems and methods.

Of all these, the only contributions that can be dealt

with in this review are those of the three anthropologists above-mentioned. Both articles by Dr. Nadel are short and to the point. Dealing with the possible uses of intelligence tests in the anthropological field, he summarizes some of his own previously published work by pointing out that such tests cannot be used as quantitative measure of racial ability, but they can, on the other hand, be employed to indicate 'orientation.' Used thus, 'from instruments of universal quantitative measurement they would become instruments of differential qualitative analysis' so that in this way 'we should not so much be examining and measuring degrees of intelligence as analysing different types or qualities of intelligence.' In a second article, Dr. Nadel compares what is described as 'the interview technique' in anthropology with those evolved by social workers in Europe and modern America.

Dr. Richards contributes a well-balanced historical survey of the methods and aims followed by successive and co-existing anthropological schools, in the course of which she also discusses the comparative merits of purely scientific research and that directed towards the contribution, if any, which anthropologists are likely to be able to afford in problems of administration. Even she, however, conspires to perpetuate the well-advertised fiction that the study of society as a functional whole was invented by Malinowski, whereas it has, of course, been the common aim of all serious anthropologists. The insecurity of this position is interestingly illustrated by the fact that, of the many technical terms used throughout this book, the word 'functional' alone, when used by anthropologists, almost always appears in inverted commas, as if apologizing for its existence and at the same time aggressively asserting a kind of divine right.

Dr. Lindgren's article on 'The Collection and Analysis of Folk-Lore' is the longest in the series, and she is to be congratulated on producing a very useful summary of the work done in this field while at the same time acting as general editress for the whole volume. This article is in the form of a summary of the different approaches used by the Finnish 'historical-geographical' school with its attempt to establish in each case 'the primary tale,' and by the American school chiefly concerned with the dissemination of motives among the North American Indians, followed by the inevitable reference to the so-called 'functional approach' and finally an interesting section of modern psychological interpretations and laboratory experiments.

Despite the apparent differences in approach, however, it may be pointed out that there is agreement on all sides on one central point, namely that, in Kohn's words, all the complex phenomena connected with folk-tales 'have arisen in accord with definite laws of thought and fantasy,' or, as Boas puts it, there is a 'logical connexion' between the elements that go to build

them up. These statements are equally true with regard to the mythology of primitive peoples which, in Malinowski's words, 'codifies belief' and 'contains practical rules for the guidance of men.' The reviewer would himself call attention to a yet deeper level, in which myth mirrors the fundamental structure of the human psyche reflected also in social organization; though where myth has become dogma, and so removed from the sphere of orally transmitted tradition, this structural element has largely disappeared, and only such folk-tales remain as have the 'compensatory' or 'wish-fulfilment' character so frequently noted by psychologists of the Freudian school.

This brings us to what is possibly the central point of importance with regard to all forms of imaginative tales, namely, to what Dr. Lindgren refers to as their very close connexion with dreams. It is, however, but another sign of the times that whereas many references are made to the Freudian wish-fulfilment interpretation, and to the theories of Rank, Ricklin and others, only passing mention is made of Jung's more fundamental concept of the collective unconscious, wherein dwell the 'archetypes' which give rise to the imagery contained in the deeper levels both of mythology and of dreams, and provide one of the channels through which the creative (as opposed to the compensatory) forces in the psyche reach up to the conscious level.

The point to note here about these so-called 'collective' symbols is that the word 'collective' is a bad translation of what is better rendered in English as 'impersonal,' as opposed to 'personal,' and that it is precisely this impersonal element that accounts for the universality of certain types of folk-tale. This fact is

well illustrated in the field of experimental psychology by a comparison between two of Professor Bartlett's experiments, which Dr. Lindgren cites, in which an unfamiliar North American tale was given to a number of non-American subjects to read through and then repeat. In the first experiment the *same* subject had to repeat the tale at stated intervals (this being called 'repeated reproduction'), and in the second (called 'serial reproduction') the same tale had to be repeated by one subject to another, and so on through a chain of subjects. In repeated reproduction by one individual the general form of the tale remains 'remarkably persistent, once the first version has been given,' and 'detail is outstanding when it fits in with the subject's pre-formed interests and tendencies.' In serial reproduction, on the other hand, the tendency is 'to acquire a moral,' 'the arguments tending to be reduced to a bald expression of conventional opinion.'

This experiment was an artificial one in that the folk-tale concerned was not taken from the subject's own cultural milieu, but for this very reason it is of great interest in that, in serial reproduction, which alone approximates to the conditions under which folk-tales are handed down, the result was that this unfamiliar tale finally settled down into a form expressing the social conventions of the milieu (i.e., the collective social structure) in which it was recited, while in the repeated experiment it did not. Stated in these very simplified terms the result appears obvious enough, but it is nevertheless instructive when taken in conjunction with the positive nature of myth as symbolizing the structure of society by means of collective symbols.

JOHN LAYARD.

TECHNOLOGY.

Musical and Other Sound Instruments of the South American Indians. By Karl Gustav Izikowitz. Göteborg, 1935. xii + 433 pp. Swedish Kroner 15.

This is an exhaustive account of South American Indian musical instruments, very carefully classified, very well illustrated with photographs and excellent text-figures, and derived not only from the study of numerous museum collections in both hemispheres, but also from some 450 publications by as many as nearly 300 different authors.

The sound instruments of South America are treated under the general headings of *idiophones*, which includes rattles and gongs, *linguaphones* and friction drums, *membranophones*, that is drums, *cordophones* (i.e., stringed instruments) and *aerophones*, the latter being subdivided into free aerophones, valve instruments, and flutes. All these classes are further subdivided according to type. Stamping-tubes are regarded by the author as originating in rattle sticks thumped on the ground, the stick having apparently lost its rattle as it acquired its hollowness. There is no gradation of note by diameter or length of tube, as among the Sakai of Malaya. In view of the origin ascribed to them, stamping tubes are treated under 'rattles,' but functionally they would seem to be more properly treated under gongs and stamping-boards, with the remarkable *dyadiko*, as the sound is produced in either case by the external percussion of the hollow vessel, whether it is sounded by means of hand, foot, or stick, or by being struck against the ground. It is to be regretted that the author did not follow Henry Balfour in retaining the word 'drum' exclusively for membranophones; the hollow wooden instrument with no membrane is in reality a gong. Balfour, it is true, used the term 'xylophone,' but this term has generally acquired a particularized association with a series of pieces of solid wood, varied in length or thickness, and

therefore giving out different notes when struck. The important wooden gongs of South America are very well and carefully treated, and so are the many cognate instruments such as the complicated Catuquinarú resonator, built up of wood, rubber, hide, and fragments of wood, hide and bone, resin and sand, the whole being bedded in a pit in the ground. In default of evidence to the contrary the wooden gongs of South America must probably be regarded as local developments from the practice of signalling by beating on the flattish roots that project like buttresses at the foot of some species of trees. At the same time the parallels with south-east Asia and with Oceania are close enough to have suggested the possibility of diffusion across the Pacific. But the closest parallels are perhaps with Assam, where—as in at least one area in South America reported on by Nordenskiöld—the gong varies from a mere hollow tree-trunk to a canoe-shaped gong. In both these areas, too, a dug-out canoe is actually used occasionally for signalling. The Melanesian wooden gongs are generally upright, while the Assam canoe-gongs are associated with ritual very closely analogous to that associated with the Melanesian war canoe, but no report of any corresponding ritual is given us from South America. Indeed, in their most developed form the American gongs, the *teponaztli* for instance, differ markedly from those of Asia and Oceania in manufacture, as they are hollowed to a shell through narrow and often intricate incisions, whereas in the Indonesian gongs the slit is straight and broad, and the method employed much more nearly that used for a simple dug-out canoe. When, however, our author follows Nordenskiöld in suggesting that the use of rubber-covered beaters in South America is unique, it is to be feared that he follows him into error, as similar beaters seem to be well known in west central Africa, and the possibility that the idea may have passed

to America with imported negroes has to be taken into account. It may be noted that the musical rasp, included by Izikowitz in the idiophone series as 'the 'notched stick,' occurs also in south-east Asia as well as in Africa.

Occasionally the author's conclusions seem open to doubt. One may question, for instance, the view that pottery was the original material of the kettle-drum, though it is true that in South America they are often partly filled with water. It would be difficult also to believe that the bent clay trumpets depicted on p. 231 had not been influenced by European bugles, had not this type been found in prehistoric painted earthenware, a fact which the author does not mention: I am indebted to Mr. G. H. S. Bushnell for this piece of information. The question of the nose-flute is a difficult one. It is naturally tempting to associate the 'South American nose-flute with the often similar types of Oceania, though it is reported to be ancient in the former and comparatively recent in the latter area. Nose-flutes,

however, are of wide distribution, and occur in Africa as well as on the mainland of Asia, so that it seems not unlikely that they are either of very ancient invention and distribution indeed, or have developed independently in different areas as a *tour de force* of virtuosity. It would be interesting to know whether there is any other part of the world where the double nose-flute is played, as in Assam, with both nostrils simultaneously.

In the references to illustrations on pp. 86 and 87 'Fig. 33' is twice misprinted for 'Fig. 34,' and 'Fig. 32' similarly for 'Fig. 33.' Again on p. 230 'Fig. 107' should read 'Fig. 108' and '109' should read '110.' The adjective 'due' is used ungrammatically for 'owing' *passim*. Otherwise there are few errors or misprints for a book published in a language foreign, at any rate to the printers, and the University of Gothenburg is to be congratulated, as well as the author, on a volume which will prove particularly valuable to museums as well as to students and collectors of musical instruments.

J. H. HUTTON.

RELIGION.

Holy Images: An Inquiry into Idolatry and Image-worship in Ancient Paganism and in Christianity. By Edwyn Bevan. London: Allen and Unwin, 1940. 184 pp. Price, 7s. 6d.

In expanding into a separate book the four lectures dealing with image-worship which Dr. Edwyn Bevan omitted from his volume of Gifford Lectures at Edinburgh in 1933 on *Symbolism and Belief*, a quantity of material of considerable interest to anthropologists has been brought together, and discussed with the knowledge and understanding characteristic of the author. In the opening pages a rapid survey is made of 'aniconic fetishism and a cult of iconic objects,' which he believes existed side by side from Palæolithic times. In due course, he thinks, "the worship of unwrought stones may have led in many cases to the worship of graven images." Since the sacredness of a particular stone was often derived from an accidental resemblance to a living form, it only required a slight adaptation to transform it into an anthropomorphic or theriomorphic image, till at length the perfect likeness was produced as artistic appreciation and skill developed.

The repudiation of idolatry by certain of the higher religions—notably Judaism, Zoroastrianism, Islam and some forms of Christianity and Hinduism—has arisen from the conclusion that the object bears no real resemblance to the divinity portrayed rather than from any refusal to associate the divine with the material. Thus, the prophetic movement in Israel, while speaking in disparaging terms of idols as 'the work of men's hands' with mouths that speak not, eyes that see not, and ears that hear not, rested its condemnation of the cult on the sacrilege of attempting to make a similitude of God.

In the second lecture the two grounds on which the denunciation in the Old Testament is based are examined in detail. The Second Commandment in the Decalogue

is shown to be ambiguous since it is not clear whether it is the making or the worshipping of images that is forbidden. Representation of the human form was regarded as contrary to the Jewish law, but Rabbinic opinion was divided, whether images might be made of any other living creatures, provided they were not identified with Yahweh. In the Talmud a distinction occurs, as in the Eastern Orthodox Church, between a picture in the flat and an image in the round. The archaeological evidence from Jewish catacombs in Rome reveals numerous animal designs, and similar examples of decorative painting recur in Tunisia, Palestine, and the famous synagogue at Dura (Europos) on the Euphrates (A.D. 245), where the human form was freely portrayed. Therefore, it is clear that at the beginning of the Christian era the Jews were not averse to the depicting of figures of men and animals provided they were not made to be worshipped.

In the next two lectures, the complex situation that developed in the Christian Church is discussed with acumen, and a complete freedom from bias in a highly controversial subject. The evidence is stated and evaluated with scrupulous fairness and accuracy, and anthropologists who may not be particularly interested in the precise question at issue, will find the skilful marshalling of the facts, and the sifting of the findings of the leading authorities on both sides of the iconic dispute, a stimulating piece of reasoning. The shallowness of many of the arguments for and against the use of images in Christian worship is revealed, and while this is not the place to enter into a discussion of the technical questions involved, iconoclasm has a very considerable significance for the student of social anthropology. This volume, by a distinguished historian and Hellenist, is a mine of valuable information excavated with supreme skill and precision.

E. O. JAMES.

OCEANIA.

The Work of the Gods in Tikopia, Volume I. By Raymond Firth. London, 1940. London School of Economics and Political Science. Monographs on Social Anthropology No. 1. vi + 188 pp., diagrams and illustrations. Price, 7s. 6d.

This book is the first of a series of mimeographed publications to be produced by the London School of Economics. It is attractively presented and illustrated. The publishers are to be congratulated on opening up this new avenue for production of scientifically valuable monographs.

The *Work of the Gods* is the Tikopia term for a series of religious ceremonies carried out twice yearly. The term itself emphasizes the essentially pragmatic character of Tikopia religion. The ceremonies involve the imposition of a general *tapu*, ritual offerings of food and kava closely related to rank and to food production, and subsequent freeing of the land from restriction. They thus parallel other Polynesian ceremonials of the *inasi* and *makahiki* type. Dr. Firth's book is a first-hand account of such ceremonies witnessed in their full vigour and described by a trained modern ethnologist.

grapher. As such, it is a unique contribution to Polynesian ethnography.

In Tikopia the ritual series of the two seasons are not identical; the component cycles of rites overlap; details of ritual vary and are to some extent influenced by the choice of the chiefs. A further complication is introduced by the conversion to Christianity of the chief of Tafua clan about two decades ago, and his consequent withdrawal from indigenous religious ceremonial.

The work under review is the first of two volumes describing the *Work of the Gods*. After a general survey of the cult, Dr. Firth describes the inaugural rite of throwing the firestick; the reconsecration of sacred canoes, directed towards success in fishing; the 'work of the yam,' central feature of the whole cycle and a paradigm of Tikopia fertility ritual; the re-carpeting and general renovation of temples; and the 'freeing of the land,' ceremonially performed during the monsoon cycle only.

These ceremonies are described in narrative form and in great detail. Though the author reserves his wider theoretical interpretations for a subsequent work, the quality of the field-work is such that general sociological implications are immediately apparent. Ceremonial is carried out mainly by the chiefs of clans in close ritual co-operation under the general hegemony of kafia, premier clan of the island. The alinement and precedence of deities as a correlate of rank and social structure is constantly emphasized. This socio-spiritual organization is reflected in sacred objects employed in the ritual and related in different ways to deities and their worshippers. *The Work of the Gods* acts as a stimulus to

production and a sanctification of productive enterprise, an occasion for economic exchanges and an expression of the interdependence of men, gods and natural resources. Recreation, competition and keen interest in communal enterprises—social, economic, and ritual—are among the motives producing a complex but coherent ritual system.

In addition to these general implications, there are many incidental discussions of details of field technique and interpretation. For example, variations in ritual and apparent redundancy involved in performance of two almost identical types of canoe ritual to achieve the same result (pp. 57-8); the pragmatic character of the rites based upon reciprocal self-interest between men and deities (pp. 38, 62, 139, 141-2); the apparent discrepancy between the ritual pre-eminence of the yam and its secondary place in the economic scheme (pp. 134-5); and the role of women and female deities in ritual (pp. 92-3, 174) an interesting commentary on the misconception of Polynesian *mana* and *tapu* as essentially male prerogatives.

The Work of the Gods will be welcomed by all students of Polynesian religion. The study of this subject has too long been encumbered by metaphysical interpretations, vague generalizations, figments of 'archaic,' 'esoteric' cults, and an almost total divorce of religion from social organization and secular activity. Dr. Firth has placed the study on the firm basis of relevant empirical evidence. If his work renders obsolete much that has gone before, it opens up new vistas for the scientific study of Polynesian ritual and of primitive religion in general.

RALPH PIDDINGTON.

CORRESPONDENCE.

The Meaning of the Cowrie: Stylized Cowrie-Pendants. (Cf. MAN, 1940, 208.) Illustrated.

13 SIR,—If we study the ornaments worn by women in the Near East we find that a very large number of the pendants are in fact stylized cowries. Cowrie-land is distant and also a metal imitation is more conveniently hung from necklace or earring.

I give a few examples. In the older specimens the cowrie shape is evident. In very modern ones it has degenerated into a circle with a hole in it and two wriggles representing the indentations on the cowrie lip. Finally it becomes a circle with a hole in it. The B-shaped pendant has many variations and may be filled with filigree work. Turned sideways, this pendant has the shape of an eye. That an eye is used to stare the Evil Eye out of countenance seems the most likely explanation. Large eyes painted, or carved, on the bows of local sailing-ships and fishing-boats, were common in the Adriatic twenty years ago.

That a cowrie, or a stylized one, hung on a child's cradle or sewn on a baby's cap, was to promote fertility is highly improbable. And a cowrie for such a purpose on a gelded ox would be ridiculous. Animals as well as human beings are killed by the Evil Eye.

The local vet. at Scutari, when called to a dying ewe, said: "Some one has looked at it. It is no use asking

"me to do anything. You must find the person who "overlooked it."

As barrenness is one of the things caused by the Evil Eye—brides in England still often wear veils, or an apology for one—the wearing of an amulet protecting a bride would in this instance 'promote fertility,' or, more exactly, would prevent an evil-minded person from causing her to be barren.

The shape B has travelled to many lands where the cowrie is unknown. It was a popular pendant in Scandinavia, whither it seems to have arrived along with the art of filigree.

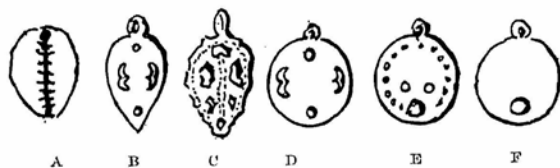
I gave a series of Albanian and Bosnian ornaments to the Ethnological Museum, Cambridge, which illustrates the evolution of the cowry pendant.

M. E. DURHAM.

Polynesian Economy.

14 SIR,—In his *Primitive Polynesian Economy*, Dr. Raymond Firth tells us that among the Tikopia the mechanism for the transmission of economic lore is not highly organized:—"on many occasions elder relatives must have died before they "had handed on their own theoretical equipment. The "existence of words known only to the old shows the "possibility of the decay of knowledge" (p. 106). He has already stated that the character of their social and religious system fails to promote technical experiment and exploration, and that there is little or no speculation upon the possibility of finding new techniques, nor search for new objects or processes (p. 87). Yet he concludes that "it is a fair inference that the economy "of the Tikopia is not retrogressive, and not even "purely static" (p. 108). A fair inference from what?

RAGLAN.



DEGENERATION OF THE COWRIE-PENDANT.



A BRONZE ARMLET FROM OLD OYE, NIGERIA.
Two views of the same object taken from points 90° apart.

MAN

A RECORD OF ANTHROPOLOGICAL SCIENCE

PUBLISHED UNDER THE DIRECTION OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

XLI, 15-37

MARCH-APRIL 1941

ORIGINAL ARTICLES.

With Plate B.

A BRONZE ARMLET FROM OLD OYO, NIGERIA. By *Eva L. R. Meyerowitz, Achimota, Gold Coast.*

15 The bronze armlet shown in Plate B was acquired by us¹ for the Museum of Achimota College, Gold Coast, from the Chief of the Brass-casters clan at Abomey, Dahomey.

Originally it belonged to a Yoruba chief from Old Oyo (Katunga) who was killed in the wars between the Eyeos—as the Yoruba people from Old Oyo were called—and the Dahomeyans sometime between 1818 and 1825. The armlet, a spoil of war, was then presented to the victorious King Gèzo of Dahomey who was very much taken with its design and gave it to the great-great-grandfather of the present Chief of the Brass-casters to have a copy made.

At that time the art of bronze and brass casting was not practised in Dahomey. The brass casting, for which the country is now famous, is of comparatively recent origin. It was sponsored by the French after their conquest of Dahomey in order to provide work for the court metal-workers who became unemployed, having lost their royal patron.

Before that time the only brass castings we know of, consisted of a series of groups ordered by King Glébé towards the end of his reign (1858-1889) for the ladies of his harem. Groups of this type, depicting sexual acts, are still produced to-day for the European curio trade. It is true that during the same period wood carvings were covered with brass foil (thin sheet brass), and even a few objects made solely of beaten sheet brass, particularly those which had to be exposed to the weather, but more important works, executed under royal patronage or the patronage of the priests, were not cast in brass, as brass was not considered a noble metal, the work being done in either wood or iron (for instance, the famous statue of the god of war in beaten iron, Charles Ratton Collection, Paris); and bangles, armlets, rings, etc., being usually in silver.

The title of 'Chief of the Brass-casters' therefore did not exist in those days, but there was a Chief of the Royal Iron-Forgers clan; it was the Chief of the Royal Iron-Forgers to whom this armlet was handed by King Gèzo. For various reasons the order was never executed, and the armlet remained in the family of the Chief till it reached the present holder of this position, who is also Chief of the modern Brass-casters in the Hountondji quarter at Abomey. The Chief gladly parted with the armlet, as since the abolition of the monarchy in Dahomey, he felt under no obligation to keep what looked to him like a broken and useless object.

The armlet is $3\frac{1}{8}$ inches in length and $3\frac{1}{8}$ inches in diameter and decorated with two human heads and two small figures. Below each one of the heads there is a crocodile, whereas below the small figures there are animals which look like lizards or perhaps chameleons. The heads and figures with their respective animals are separated by elaborate patterns which may have a symbolic significance. [In Plate B. two photographs of this armlet are combined. Ed.]

¹ In the course of a brief survey of Dahomeyan arts and crafts conducted by H. V. and Eva L. R. Meyerowitz and sponsored by Achimota College.

Most interesting are the small figures, in that they are more reminiscent of the Egyptian Bes than anything known to us in African art. One figure presses both his hands against his cheeks, showing his tongue which is of enormous size, while the other carries an object in his one hand which suggests a meteorite or thunderbolt while his other hand points to his sexual organs.

I do not wish to speculate as to what all the items on the armlet signify, but I think it worth while to try and interpret the two small figures.

Analysing them, I came to the conclusion that, very likely, they are images of Shango, the national god of the Yoruba people, though represented in a rather unusual form. Shango is sometimes represented by symbols (the double axe, thunderbolts, etc.), but is most frequently depicted as a horseman. This representation of Shango dates back to the time when the ancient god Shango was merged with Shango the king, who lived in the thirteenth century, and who is said to have been the fourth king of the present dynasty at Oyo.

Other representations of Shango in human shape can best be studied on the dancing clubs of the Shango priests, the so-called *Ose Shango*. Frobenius, *Das unbekannte Afrika*, p. 148 shows such an *Ose Shango*, where the god is very similar to both the small figures on the armlet. Here one also sees the same enormous tongue, but both hands, holding similar oblong objects, are raised to the cheeks. Though the difference in style, between the figures on the armlet and the figure on the dancing club, is considerable—as may be expected from works of different periods—I think there can be no doubt that they all are meant to represent the same god.

The conception of Shango is the most interesting part of the armlet, being reminiscent of the Egyptian Bes. There may once have been a connection between the Nubian god Amun whose features were those of Bes, from the New Kingdom onwards,² and the ancient god Shango before his fusion with the king of the same name. This may possibly be explained by the big migration across nearly the whole breadth of Africa, of tribes who were forced to leave Nubia in the seventh century A.D. It may be

presumed that the worship of Amun, who was the chief god of Nubia, was transported by these tribes. (Cf. Sir Richmond Palmer, *The Bornu Sahara and Sudan*).

To this day Shango is regarded as the god of thunder and lightning, in the same way as the sky and weather god Amun was once regarded; both manifest themselves in meteorites, thunderbolts and shooting stars; both are ram-gods.

Legends would indicate that Shango, just as Amun, was once solarized. The double axe, transformed into fertility emblems on old ritual vessels of the Shango priests would also indicate that Shango at one time was regarded as a fertility deity.

Therefore the two small figures on the armlet, showing Shango in his original shape, are, in my opinion, of particular interest. It may be that the two human heads alternating with the two small figures on the armlet, refer to Shango, the powerful and superhuman king.

The style and general make up of the armlet has little in common with works of art from Benin. The resemblance in the treatment of hair, nose and mouth of the heads to the Benin style, is probably due to the specific style evolved through the common *cire-perdue* modelling technique.

Attention should be drawn to the cracks which are obviously due to a faulty cast i.e. to rapid contraction of the metal round the core. It may be argued that a faulty cast like this would not be worn, but it is my experience, that the Africans generally attach little importance to such blemishes; for instance they are frequently found to purchase stools with large cracks in them without minding in the least.

The described armlet is at the present time the only bronze casting known from Old Oyo, the ancient capital of the Yoruba country. Though it is said that when the Fulani conquered the town in about 1835, they took with them over one hundred brass vessels, other objects cast in non-ferrous metal are not mentioned anywhere. Still one may presume that the Alafin of the Yorubas had employed bronze workers at his court, and that it was not necessary for him to give his orders to the workers at Ife. Excavations of the ruins of Old Oyo may one day perhaps settle this question.

² G. A. Wainwright, 'Some Aspects of Amun,' *Journal of Egyptian Archaeology*, XX, 1934, iii-iv, p. 152.

THE PELOTA OR HIDE-BALSA OF SOUTH AMERICA. *By James Hornell.*

16 A rude form of skin-coracle, of simpler construction than the bull-boat of North America, is scattered widely throughout a vast area in South America, where it is commonly known by the name of *pelota*; in the La Plata region it is termed a *balsa*; in Inner Bahia, a *banqué* (Friederici, 1932, 222), and formerly *natae* in the Chiquitos region of Bolivia (Dobrizhoffer, 1822).

The *pelota* is more irregular in shape and more rudely constructed than the bull-boat; generally there is no adventitious framework to keep the contrivance in shape. In plan it may be roughly quadrangular—usually a sub-rectangular oblong though often it is nearly square; sometimes it is even irregularly triangular (Arenales, 1833, 64), or roundish and irregular (Camara, 1888, 172). When of rounded shape it may be reinforced by a few sticks across the bottom, and others supporting the margin of the mouth, to which the hide is laced by thongs—a form of construction approximating thereby to that of a rude type of bull-boat. The material employed is the skin of an ox, untanned and dried, and is shaped with the hairy side turned outwards (Eder, 1791, 74), for it is easier to bend the edges of a dry hide inwards on the flayed side than conversely, as the former method follows the natural curve of the skin when on the animal's body; this practice is the converse of that employed when covering the wicker framework of a bull-boat where a soaked and pliable hide is used.

Friederici (1907, 28) records the *pelota* as in use to-day or till recently on the llanos of Colombia and Venezuela, in Matto Grosso, and Rio Grande do Sul, in Uruguay, on the rivers of the pampas of the Argentine and Paraguay, and by the Mojos or Moxos of northern Bolivia. Southern Bolivia has also to be added (King, 1846, 84 and others). Southward it ranges (or ranged) almost to the farthest limits of Patagonia; Parish (1839, 69) on the authority of old MS. journals in his possession, records how the explorer Don Antonio Viedma when returning to the coast in 1782, found the River Chico so swollen by floods as to be unfordable. "It was proposed that some of the Indians who could swim should tow Viedma across on a *balsa*, which they set to work to construct of hides

"and sticks, but when completed it looked so frail and dangerous a ferry that the Spaniards preferred the risk of swimming their horses across." Viedma's words are "Me envió tres Indios nadadores, provisto de cueros y palos para formar una pelota." Viedma described these Indians as never having seen a Spaniard before and as differing little in habits and customs from those of the pampa tribes of the Argentine. "The men employed themselves in hunting guanaco and other animals for their skins," a statement which seems to suggest that the balsas of this tribe may have been made of guanaco skins sewed together, as one would not be sufficient for this purpose, being much smaller than an ox-hide.

Like its counterpart in North America, the *pelota* is (and was) used solely for crossing rivers; it is therefore of minor transport importance. It may be propelled in various ways; a swimmer may push it before him, or he may tow it across holding the tow-rope, usually a thong of raw hide, between his teeth. A third way is for the swimmer to have the aid of a horse which he grasps by the tail. Yet another method is where an ox tows the *pelota* without the intervention of a swimmer. The Gaucho women of Rio Grande del Estero, in the Argentine, formerly enjoyed great repute as clever *pelota*-swimmers (Arenales, l.c.).

Probably the best account of the *pelota* is that by the Jesuit Father, Martin Dobrizhoffer (1822, II, 120-2). Writing in the 18th century of the Abipones, a nomadic and equestrian Paraguayan tribe of the Gran Chaco, he says:—

"Not only the men, but even young women, cross rivers without ford, bridge or boat, by swimming. The children, the saddles, and other baggage are sent over on a bull's hide, called by the Abipones, *natae*, and by the Spaniards, *la pelota*, and generally made use of in crossing the smaller rivers. . . . A hairy, raw and entirely undressed hide is made almost square, by having the extremities of the feet and neck cut off. The four sides are raised like the upturned brim of a hat, to the height of about two spans, and each corner is tied with a thong, that they may remain erect, and preserve their squareness of form. At the bottom of the *pelota*, the saddles and other luggage are thrown . . . in the midst of which sits the person who is to cross the river, taking care to preserve his balance. Into a hole in the side of the *pelota*, they insert a thong instead of a rope, which a person, swimming, lays hold of with his teeth and with one hand, whilst he uses the other for an oar, and thus gently draws the *pelota* along. . . . If rivers of a

"wider channel and a more rapid stream are to be crossed, the swimmer holds the tail of the horse, which swims before, with one hand, to support himself, and drags the *pelota* with the other. In many long journeys I practised this sort of navigation almost daily . . . I always preferred a hide to a tottering skiff or boat, which is constantly liable to be overturned." It is of interest to note that towing horses were used in the Old World in recent times. Sir Alex. Burnes in his *Travels into Bokhara* (1834, I, 249) describes how he crossed the Oxus in a heavy ferryboat drawn by a pair of horses "yoked to the boat, on each bow, by a rope fixed to the hair of the mane." Similarly, on the Middle Nile, Waddington and Hanbury in their *Journal of a visit to some parts of Ethiopia* (1822, 234) saw the chief of a village opposite Argo Island crossing the river in a ferryboat "dragged by swimming horses."

Dobrizhoffer continues as follows:—"If many days' rain has wetted the hide and made it as soft as linen, boughs of trees are placed under the four sides and across the bottom of the *pelota*; these support the hide and strengthen it to cross the river in safety. American captains of Spanish soldiers will not swim, although they know how, that they may not be obliged to strip before their men. To reach the opposite side they sit upon a *pelota*, which, scornful of the assistance of another person, they impel forward by two forked boughs for oars."

He states elsewhere (p. 114) "this bull's hide for use as a *pelota* is carried by the wife, suspended from the side of the saddle, together with a diversity of other things—all the domestic chattels contained in boar-skin bags, also the whelps and the young infant if she have one."

When strengthening sticks are added, they consist according to Camara (*l.c.*) of a straight stick along each side of the mouth in quadrangular *pelotas*, or of two curved sticks in those of roughly circular plan. To these the edges of the skin are bound by a lacing of thin thongs. A few curved sticks across the bottom are sometimes added.

That the construction and method of usage of the *pelota* remain to-day exactly as when Dobrizhoffer wrote his account some 170 years ago is shown by Duguid's picturesque description (1931, 297-300) of how his party crossed the Rio Grande in S. Bolivia.

"In the distance a dozen natives, clad simply in straw hats, their bronze legs raising a scatter of foam, splashed towards us through the shallows. At their heels a swarm of craft, led like puppies on a string, slapped their bottoms against the waves. Presently they reached the main channel, where the stream ran swift and choppy, and without hesitation, plunged in, the cords held tight between their teeth. Then after a long, diagonal swim their bobbing heads drew clear of the flood and their charges were beached. . . . The queer boats that lay high on the mud in shape resembled closely the vast water-lilies of the Amazon. Square, water-tight, clumsy as a tub, they were made from a couple of dried bullock skins laid on top of each other, and pinched round the edges until

"there was a hollow in the centre for a man to sit cross-legged. . . .

"The crossing was an adventure in itself. . . . We started a few hundred yards upstream, and taking advantage of the current, steered a diagonal course through the waves. Each of us had an Indian in charge, and we soon found that the nicest sense of balance was required if the water was not to slop over the clumsy gunwales. . . . Our pilots swam a little below the *pelotas*, a leather cord between the teeth, and humoured the bouncing craft with their shoulders when they showed signs of drifting away."

Another recent account of the *pelota* has been given to me by a friend who, in the thirties of this century, was employed by an English Development Company operating in the llano region of southern Bolivia; this description is of special interest as it shows how versatile the Indians are in modifying their procedure when circumstances require. My informant's duties necessitated long journeys in the saddle; rivers in flood had often to be crossed at places where there was neither ferry nor bridge. On such occasions, he said, the usual action is to open out a dried ox-hide, which travellers are in the habit of carrying under the saddle, and to form it into a rude but effective craft, capable of affording the means of transit to the opposite bank. This is done by lacing a thong of raw hide through the marginal holes made in the hide when it is pegged out to dry, with the legs cut off close. Drawing upon the two ends of the thong, the edges of the hide are drawn upwards circumferentially; when this is judged sufficient, the hide has been converted into a rude, frameless coracle, roughly oval in plan, puckered in folds at intervals along the margin. One of ordinary size, if well shaped, is capable of carrying a passenger and a quantity of baggage. Great care has to be taken to prevent overloading. On occasion if a dry ox-hide be not available, the hide cover of a bullock cart has been utilized in similar manner, when the need to cross was urgent.

Propulsion.—According to this account the normal method as regards these modern *pelotas* is for a swimming "ferry-man" (*vadero*) either to tow it at the end of a hide line or to push it before him. Should a *vadero* be unavailable, a draught bullock, if procurable, may be employed to swim ahead, towing the *pelota* by means of a raw-hide lasso looped around its horns, or, preferably fastened to the upper part of a sort of girth at the middle of the back. Its movements to right or left are guided by a second lasso

attached to the free end of an unpaired bridle-rein, three to four feet long, of which the other end is made fast to a nose-ring of raw-hide thong passed through the nasal septum. By jerking this lasso to the appropriate side the rein is thrown over the right or the left horn as desired and so gives direction to the swimming bullock.

My friend has seen and in many instances has himself used this type of ferry-craft on streams in Bolivia, notably on the river Beni and on several rivers in the province of Chiquitos; also on the upper reaches of the rivers Pilcomayo and Paraguay, particularly in localities sparsely populated and without established river crossings by bridge or ferry.

The origin of the *pelota* is obscure; it is uncertain whether it is cognate with the bull-boat of North America or an independent invention. In view of its range throughout the whole length of South America and of the fact that the construction of the most elaborate type of *pelota* approximates to that of a common form of bull-boat, the former explanation is, superficially, the obvious conclusion. Looking deeper, we find that against this view are to be set two weighty objections: these are (a) the Spanish chroniclers of the Conquest and other early writers do not mention any such craft, and (b) the pre-Colombian absence of cattle and horses from the South American fauna, whether wild or domesticated. Friederici (1907, *l.c.*) emphasises the latter objection, while admitting that it is just possible that the *pelota* belongs to the original Amerind culture of the country. Before the post-Colombian introduction and the inordinate increase of European cattle, he considers that the Indians had no supply of skins suitable for any practical use in river transport; the skins of guanacos were the best available, and these he argues are too small and weak for this particular purpose.

I cannot see that these premises are true, and therefore I cannot admit that the inference drawn is necessarily correct. The difficulty arising from the comparatively small size of a guanaco's skin—these animals measure 4 feet to the shoulder and have a length of 7 to 8 feet—would easily be overcome by the simple expedient of sewing two or more skins together to form the covering of a craft large enough

to transport a passenger and light baggage; we have Irish accounts of as many as 40 ox-hides being sewn together to cover a large sea-going *curragh*, while *curraghs* of two hides and a half and of three hides appear to have been common (Hornell, 1939, sec. 3, 77-78). Some support for this view is afforded by Parish's record above given where he states that the *pelota* made for Viedma in southern Patagonia was constructed of "hides and sticks" by Indians who "employed themselves in hunting guanacos "and other animals for their skins" some of which they sewed together to form cloaks. No mention is made of their possession of cattle.

As for any lack of strength in the guanaco skins, weakness here may be overcome by either of two devices or their combination: (a) the doubling of the skins used, or (b) the use of a strengthening framework of sticks, or (c) by a combination of the two.

The first we have already noted is in use by Bolivian Indians on the Rio Grande (Duguid, *l.c.*), while the employment of the second has been recorded by Dobrizhoffer, Camara, and Parish, among others.

These considerations, reinforced by those mentioned below, incline me strongly to the view that the present frameless type of the *pelota* is a degenerate form of a pre-Colombian original which approached the bull-boat closely in shape and construction—bowl-shaped in form and covered with skins of guanacos sewn together upon a framework of wicker. This conclusion obviates the necessity to endow the *pelota* with a separate and very late origin, dating no further back in time than the sixteenth or seventeenth century. Seeing that its distribution in South America extends from Venezuela to Patagonia and that its range agrees closely with the distribution and migration routes of the Carib and Tupi tribes and their offshoots (see Haddon, 1919), wherever these coincide with pampa or llano regions, it is extremely difficult to understand this wide dispersal among a multitude of Indian tribes unless its origin be much older. If so, it seems probable that in its pre-Colombian form it was hardly to be distinguished from the bull-boat, and that the omission of a supporting framework, at first partial and later absolute, has been the direct result of the post-Colombian introduction of European cattle, whereby the

Indians were enabled to make use of larger and thicker skins, so stiff when dry that no framework was required to function as a support. This change would be eagerly welcomed everywhere, because of the reduction of labour thereby involved in the construction of the craft; its

increased portability would also increase its usefulness, particularly after the coming of the horse, which vastly increased the possible area open to the wanderings of those tribes that possessed already or thereafter acquired the nomadic habit.

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BRONZE SICKLES WITHOUT SOCKETS. By T. Sheppard, M.Sc., Hull Municipal Museums. Illustrated.

17 All archæologists are indebted to Sir Cyril Fox for his valuable memoir, 'The 'Socketed Bronze Sickles of the British Isles' (*Proc. Prehistoric Soc.*, N.S. Vol. 5, Pt. 2, pp. 222-248). In this he illustrates and describes over sixty examples of these implements, which presumably were used for cutting the corn ears from their stalks. From his diagram (p. 237), which illustrates the evolution of the sickle, it is apparent that the prototype is the straight bayonet-like socketed implement, an excellent example of which, from North Lincolnshire, is figured and described in *Hull Museum Publication* No. 112.

While I know of no socketed sickles in the Hull district, it happens that we have in the Hull Municipal Museums, half a dozen bronze sickles of the cast-plate type, from the continent. These sickles, with many other antiquities of the same period, were said to have been taken from a Museum in Hungary during the War of 1914-18. They were offered for sale in Denmark, and thus came to Hull, where already was a similar collection from a Museum in the Rhine province. This latter series was displaced during the Franco-Prussian War, and was purchased in Hull by the late J. R. Mortimer, of Driffeld; the specimens returning to Hull when the Mortimer

Museum was purchased for the city by the late Col. G. H. Clarke.

These sickles, though all differing in decoration, apparently form a hoard, and (I should imagine) are the work of one man. Each has been cast in a shallow mould, presumably of clay, and though there is a general resemblance, and each one has the blade turned to the left, the decoration is different in each specimen. The sickles are not socketed, and have been cast flat, the back of each being perfectly plain, and representing the upper part of the untouched casting. Instead of a socket, each is prolonged into a flat handle, presumably for fastening in a split wooden shaft; if indeed the sickle was not held in the hand. In each there is a well-defined curved ridge on the outer margin of the implement, the inner edge being sharpened for its entire length.

No. 1 is $7\frac{3}{4}$ in. along the outer edge and $7\frac{1}{4}$ in. on the cutting part. A medial ridge extends from the handle towards the point, and disappears at two-thirds of its length. The handle is clearly defined, oblong in shape, with a prominent ridge all round. There is a spur on the corner opposite the blade, and the bottom of the handle has a semi-circular concavity. It has been well used, and frequent sharpening has left the cutting edge wavy. The sharpening

has taken place from the front only, and has apparently been done by a stone strickle or sharpening hone. It weighs 7 oz.

No. 2 is unusually broad, with squared point, and base of the handle. This handle is not so clearly defined as in no. 1, as the outer side of the implement is continuously curved from the point to the bottom of the handle, though the inner part of the latter is straight. A straight serrated ridge runs along the inside of the handle and extends to the outer edge of the blade; a similar ridge extending on the outer side of the handle until it meets the upright ridge. There is a definite spur, $\frac{1}{2}$ in. wide and $\frac{1}{2}$ in. long, towards the top of the handle. The blade has no central ridge, but in place of this are two shallow grooves, one of which extends to about an inch from the point, the other ending half-way. These two grooves seem to have been cut with a sharp gouge. From the spur, the outer edge of the implement is 9 in. long, and the blade is $1\frac{3}{4}$ in. wide in the middle, decreasing to 1 in. at the tip. Below the spur the handle is $2\frac{1}{8}$ in. long and 1 in. across at the flat base. Where not gouged, the face of the sickle shows the rough sandy matrix of the mould. Weight $6\frac{1}{2}$ oz.

No. 3 is similar, but smaller. In this, the handle is defined by two straight ridges, with a parallel central ridge. The blade has two parallel curved small ridges, which join on the outside edge at a distance of $2\frac{1}{4}$ in. from the rounded point. The cutting edge has been well sharpened, and has two notches near the handle, another two near the point. As on No. 2, there is a squared spur at a distance of $2\frac{1}{4}$ in. from the bottom of the squared handle. The curve from the spur, is $8\frac{1}{2}$ in. long, and the blade averages 1 in. in width. Weight $4\frac{1}{2}$ oz.

No. 4 shows a further variety in the decoration of the handle. On the inner side is a straight ridge, which reaches nearly to the outer curve of the sickle; and on the outside, a ridge which forms a continuous curve from the bottom of the handle to the broad curved blade. The centre of the handle has two straight ridges, in the form of a steeple, which meet at the outer ridge. The blade has also two well-defined parallel ridges which converge at the top of the inner ridge of the handle, and extend towards the point. The upper ridge joins the outside edge at a dis-



FIGS. 1-6. BRONZE SICKLES WITHOUT SOCKETS

tance of $2\frac{1}{2}$ in. from the point, and the lower one extends to $1\frac{1}{2}$ in. from the point. It has been well sharpened. There is the usual spur, in this case triangular, and from this the outside curve of the sickle measures $8\frac{3}{4}$ in. The inside of the handle is $2\frac{1}{4}$ in. long, and the outside, from the spur, 2 in. The base of the handle is irregularly curved. The spur has been hammered out, thus slightly extending over the flat back. The blade varies from $1\frac{1}{2}$ to 1 in. in width. Weight $7\frac{1}{2}$ oz.

No. 5 is a much more slender sickle, with a turned-up point, like a bird's beak. The handle, which is square and chisel-like at the base, has, outside, a curved ridge, which extends to the point. Its inside has a ridge which continues on the blade as a single ridge to within $1\frac{1}{2}$ in. of the

point. There is a medial ridge on the handle which bifurcates at the top. There is the usual spur, but it has been hammered and folded over, forming a distinct loop. From this spur, the outer edge of the blade is $8\frac{1}{2}$ in. long, the blade is $1\frac{1}{4}$ in. at its widest part, and the handle, measured from the spur, is 2 in. long by 1 in. wide. A sharp edge has been obtained by filing or cutting on both back and front, the otherwise flat back being bevelled to the extent of $\frac{1}{4}$ in. the whole length of the cutting edge. Weight $5\frac{1}{4}$ oz.

No. 6 is a small object more resembling a razor. There is the usual ridge along the outer edge; it has a squarish point and ends in a V-shaped notch at the opposite end, which has a vertical projection, $\frac{3}{8}$ in. high, which doubtless assisted in holding. The inner edge has been sharpened on the face. The length of the outside curve is $4\frac{1}{4}$ in. Weight $\frac{3}{4}$ oz.

I suggest that the hoard is of the Hallstadt period of the Iron Age.

A sickle very much of the same type as these is figured by Keller, *Lake Dwellings of Switzerland* (E. T., 1866), Plate 48, no. 31. This he describes (p. 162) as a "bronze sickle of the usual form, but very large. The diameter of the semi-circle formed by the outside is $6\frac{3}{4}$ inches. "The transverse section of the blade is represented." This sickle is from Estavayer and the drawings show that it is precisely of the type of those just described, and has an outer ridge and a smaller ridge running parallel, reaching to the point. There is the usual triangular spur, at which the two ridges widen, forming the two sides of the handle, which has a concave piece cut out at the bottom. Between these ridges, near the bottom, is a small hole, apparently to assist in fastening to a wooden handle.

Another sickle is figured on Keller's Pl. 29. It is briefly referred to on p. 119 among a list of the objects found at Unter-Uhldingen, which includes 'sickles like that drawn.' This is a curved blade of the usual type, and apparently of a similar size to that just referred to. It has two prominent ridges which form the two sides of the handle. There is no spur, and the ridges are parallel most of the way round, but meet at the point. There is a small circular hole, apparently to assist in hafting, between the ridges near the base of the handle, which terminates in an almost chisel-like edge. The sickle has apparently been

worn by sharpening. This example, like many others here referred to, are not included in the very brief and incomplete index to Keller's book.

Describing the objects of bronze from Nidau, Keller says (pp. 137-138):—"The lake dwelling of Nidau is particularly rich in bronze remains. "A large number of sickles have been found "both at Nidau and Lattringen, very similar "to each other both in form and size. They "are like a half-moon, but with this difference, "one half is less curved and is rounded at the "point, while the opposite end is somewhat "wider. On an average, the length from one "point to the other is $5\frac{1}{2}$ inches; the breadth "of perfect specimens in the middle is from " $1\frac{1}{2}$ to $1\frac{3}{4}$ inch. On one side they are quite "flat, and on the other they have either one, "two or three ribs running parallel with the "outer edge, partly for the sake of strength and "partly for ornament. They were all cast, as "may be clearly seen by a projection in the "middle of the border; sometimes even a "portion of the metal was left standing, indicating the channel for pouring in the liquid "bronze. The mode in which they were hafted "is exactly the same as that in the bronze "celts: they were fastened into a piece of "split wood by means of cord or a nail. A very "large number of implements of this kind are "in the most instructive cabinet of Colonel "Schwab, and in other Swiss collections, and "I can give my assurance that of all I have seen "no two specimens have been cast from the "same mould. Many of the sickles found at "Nidau-Steinberg appear to have been exposed "to a violent heat. Two of them are drawn "Pl. 33, nos. 1 and 2."

These vary in type from those hitherto described. No. 2 is more like them, but has a small plain chisel-like piece at the handle end. In the centre of the sickle, however, the two ridges are divided, at which point there is a small concave depression opposite which the outer curve is broken by a slight protuberance. In no. 1, however, the sickle is an almost perfect crescent, though at one end the curve is slightly less. There are three ridges divided in the centre by two holes, where the outer curved ridge is again broken by a slight protuberance.

On Keller's Pl. 62, nos. 16, 17, two sickles are figured, but are merely noted in the text as

'sickles' in a list of objects found in the Terremare beds. These two are much more like figs. 1-5 of our Hungarian hoard. Keller's no. 17 is very like our no. 1, with single outer ridge on the blade, a straight handle between two ridges, and separated from the blade by a spur; and the handle has two holes, one at the top and one half-way down, for better hafting. No. 16 is broken at the handle, but the outer ridge has an elbow-bend forming the spur, which continues to the broken base of the handle. On the opposite side has been a broad ridge, which thins out to a point at about an inch from the handle, the ridge (so far as it goes) being parallel to the outer edge.

Four 'sickles' of iron from Marin are shown on Keller's Pl. 71, nos. 6 and 7; Pl. 78, figs. 5 and 6. Pl. 71, no. 6, "approaches in shape those of "the bronze age"; (p. 256): no. 7 has the edge "finely serrated." This serrated sickle is very thin and resembles a band-saw. The other three are very like the bronze sickles already described, and, as with certain bronze axes, etc., show that in making iron objects of this kind, the bronze type was followed. The shafts of Pl. 78, nos. 5, 6, have the pointed hafts turned up for better securing to the wooden shaft, which in no. 5 is provided with an iron ferrule.

In Gastaldi, *Lake Habitations and Prehistoric Remains . . . of Italy*, 1865, Pl. 1, no. 1, is a sickle described as a 'utensil of bronze: marl-bed of Campeggine.' This is identical in every way with the Terremare sickle, Keller, Pl. 62, no. 17, if indeed it is not the same specimen, as may be assumed from Keller, p. 224, second paragraph. It is also illustrated by Munro, *The Lake Dwellings of Europe*, 1890, p. 244, fig. 76.

Some idea of the abundance of these sickles on continental sites can be gathered from Munro's book. From the Lake of Neuchatel, 30 sickles are recorded (p. 58); from the Lake of Geneva, 23 sickles (p. 85); from Gresine, 7, and from 'all stations' on the Lake of Bourget, 23 (p. 98).

Two Neuchatel sickles are shown in Munro, fig. 9, nos. 15 and 16. The first is crescent-shaped, pointed at each end, though there is a small boss at the handle-end to assist in shafting. A small curved piece has been taken from the middle of the back ridge. No. 16 has more the shape of a shepherd's crook with a turned-up point. There are the usual two ridges which extend to form the handle, and this is made narrower than

the rest of the blade by a thin piece on each side being cut away.

A typical curved sickle, with medial ridge, small spur, and hole for shafting, from Neuchatel, is figured by Munro, p. 62, fig. 1, no. 1, among "a considerable number of bronze objects" (p. 61).

A new feature is described by Munro (p. 99) under Lake Bourget:—"Sickles ([e.g., p. 100] "nos. 20 and 21) have nearly all a raised button "for fixing the handle (in which respect they "differ from those of Switzerland), and may be "classified under a variety of groups dependent "on the degree of curvature and the disposition "of the raised ribs." Both those figured (p. 100, nos. 20, 21) have two parallel grooves along the blade, and fig. 20 has a button, like that on the Scunthorpe bayonet-like implement. Neither has a handle.

From the Lake of Sempach are 'four sickles' (one with black spur). The one illustrated (Munro, fig. 15, no. 11) is curved, with two central ridges, and a small hole between the ridges at the straightened end, for hafting.

From Unter-Uhlingen are 'some sickles,' one of which (Munro, fig. 32, no. 23) has a ridge extending from the straightened handle towards the point, on the outside; another, which eventually forms a medial ridge on the blade; and from the top of the handle a further ridge, which, as with part of the lower one, is cut diagonally, giving a rope-like ornament. On the handle are two large pear-shaped perforations for hafting.

The collection from the Lake of Starnberg includes one sickle (Munro, fig. 36, no. 18) which is long and slender, and slightly upturned point, resembling our Hungarian example, no. 5. The Starnberg specimen has a ridge along the outer curve; a smaller one helps to form the handle, which is divided, with a loop at the end of the slit, and a sharp spur in the usual position.

The Lake of Geneva site has produced five sickles, one of which (Munro, fig. 18, no. 9) shows two ridges which extend to a raised boss (after the manner of no. 6 of the Hungarian hoard), at the end, for the handle.

The Terremare have also produced a sickle, very like that in fig. 1 from Hungary. It has three ridges, two of which join to form the left side of the handle, and the other turns at an elbow

before forming the right hand side of the handle. Between the two is a circular perforation for shafting.

Two sickles from La Tène (Munro, fig. 90, nos. 30, 32) are of the type now described. Though the metal is not definitely mentioned, they are presumably of iron, as they are similar to those already described Keller, plate 78, if not identical with them. Munro states (p. 288), that "the few sickles recorded resemble those of modern times, and some of them had teeth . . . They were hafted by a crooked tang, and ring, precisely like those still in use."

Munro also shows how the sickles were hafted p. 518-519):

"Sickles were also widely distributed over the lake-dwelling area of the Bronze Age, including the *Terremare*. They are flat on the under side [i.e., what I have called the back.—T. S.], but on the upper side they have two or more ridges running lengthways, the object of which was to strengthen the implement. By means of a raised knob, or rivet-hole, and sometimes a projecting spur, it was firmly fixed into a wooden handle, as seen in fig. 187. That represented here was found at Moeringen, and is adroitly fashioned by hollows and rounding ridges, adapted for the right hand. That this was the normal condition of these handles, is probable from the fact that other two similar objects were found at Corcelettes, which are now preserved in the Museum at Lausanne." The description under the illustration reads:—"Wooden handle with bronze sickle ($\frac{1}{2}$). The smaller figure shows the manner of using this implement."

"Two shaped handles of wood for sickles" from Neuchâtel are noted by Munro (p. 59) and

may be the two to which the quotation referred.

The late Sir John Evans, our pioneer in the classification of bronze implements, has a chapter on sickles. *The Ancient Bronze Implements . . . of Great Britain and Ireland* (1881), p. 194.

"Bronze sickles were hafted in different ways, sometimes being fastened to the handle by a pin, either attached to the stem of the blade, or passing through a hole in it, combined with some system of binding; and sometimes being provided with a socket into which the haft was driven, and then secured by a transverse pin or rivet.

"The sickles with a socket to receive the handle appear to be peculiar to Britain and the North of France. The other form occurs over the greater part of Europe, including Scandinavia, and the blades, as has been observed by Dr. Keller, are always adapted for use in the right hand."

Of 'sickles without a socket,' but few have been found in Britain, and those mostly in our Western Counties: four in a hoard found in a turbarry at Edington Burtle, near Glastonbury, Somersetshire (Evans, figs. 232, 233). Two other sickles found on Sparkford Hill, also in Somersetshire, and two found in Taunton, present the same peculiarity. All these are in the Taunton Castle Museum.

A thinner form of flat sickle, if such it be, was among a number of bronze objects discovered at Marden, near Staplehurst, Kent.

Two more bronze sickles of the same type are figured by A. P. Madsen. *Afbildninger af Danske Oldsager og Mindemaerker*, Copenhagen, 1872.

LOCAL VESTIGES OF HYDROMANCY IN ENGLAND. *By the Reverend Peter B. G. Binnall, Holland Fen Vicarage, Lincoln.*

18 The few recorded examples of divination by water in this country do not appear to have been collected or analysed, but, as survivals of an eastern cult which must have been widespread in early times, they seem worthy of some attention.

The actual distribution of wells and springs credited with prophetic powers leads to no useful conclusion. They are commonest in the west of England and the Midlands; about half the number found in each of these areas appears respectively in northern and southern England, whilst we have seen no records of hydromancy in the eastern counties, south of the Wash.

The greatest number in one county is six in Cornwall, but no great importance can be attached

to this, which is probably due to the fact that Cornwall is fortunate in having had a careful record of its sacred wells and springs compiled by the late T. Quiller-Couch and published, under the editorship of his daughters, in 1894.

There seem to be three main points to notice in connection with divination by water, viz.: the purpose for which the well, spring or river is consulted, the method adopted for acquiring the desired information, and the way in which such information is supplied. These might perhaps be called respectively, the nature of the Reason, the Ritual, and the Reply. Occasionally, too, there is a record of the particular day or season which was most propitious for this purpose.

The commonest kind of prophetic well was that which foretold events—usually disasters—of national importance, and instances are found as far apart as Cumberland and Devon. In the case of such wells, there is little evidence of actual ritual, but this is clearly implied in the preservation of the wells' reputation in popular memory.

There are at least eight known examples of this kind of prophetic property of which the following are concise details.

The "Marvel-sike" spring at Boughton, Northamptonshire, "never runs but in mighty gluts of wet, and whenever it does so, it is thought ominous by the country people, who consider these breakings out of the spring to foretell dearth, the death of some great person, or very troublesome times."¹ The "Bloody Well" at Finchampstead in Berkshire, ran blood when any national calamity was impending and is mentioned as doing so in the Anglo-Saxon Chronicle.²

At Hungervale, Staffordshire, was a stream or spring which Warkworth, the chronicler, mentions as running foul and troubled when it betokened battle, and clear when dearth or pestilence impended. Presumably it was dry in normal times.

The "Drumming Well" at Oundle gave forth sounds resembling a drum beating a march and was so heard by Baxter at "about the Scots' coming into England."³

Saint Helen's Well at Rushton Spencer, Staffordshire, dried up from about the beginning of May to Martinmas before any great calamity, a phenomenon which was observed before the outbreak of the Civil War, the execution of Charles I, the corn famine of 1670, and the discovery of the so-called Popish Plot.⁴

At North Tawton, in Devon, was a somewhat similar spring, which not only dried up in wet seasons, but ran freely during drought. This peculiarity was exhibited shortly before the death of Edward VII, and in August, 1914.⁵ In Cumberland, a stream rising in the parish of Torpenhow is said to have run blood at the time of the execution of Charles I.

Lastly, at Warlingham, in Surrey, is a stream which was said only to rise "upon the approach of some remarkable alteration in church and state" and to have done so several times during the seventeenth century.⁶

Next in order, and rather curiously so, come wells which foretold the approximate price of corn. Such cases cannot, in their present form, claim a very remote ancestry, but it seems probable that this particular property has been substituted, in a commercial age, for others, more ancient and now unfortunately forgotten.

Such springs occur at Allesley and Atherstone, Warwickshire; Lambourne, Berkshire⁷; Hindon and Morecombe Bottom, Wiltshire⁸; Langley⁹ and Sittingbourne¹⁰ in Kent. In all these cases, the desired information is supplied by the movement of the water, or, alternatively, by the rising or failure of the spring.

There were evidently numerous places where all kinds of questions could receive an answer, and any future events be foretold. Such are found predominantly in Cornwall, but at least two other examples occur, as far away as Whitmarsh in Warwickshire, and the Yorkshire Ouse. At Bodmin and Madron, in Cornwall, the method of divination was by casting straw, pins, pebbles or crossed rushes into the well, and observing their movements or effects upon the water.¹¹ At Whitmarsh, stones were also thrown into the well but the enquirer's answer was supplied by the ringing of submerged bells.¹²

The River Ouse supplied the desired information by displaying, as in a mirror, "whatever is desired of past, present or future," but a certain amount of ritual was involved. The divination had to take place on May morning, at a particular spot near the city of York, and whilst the Minster clock struck one. Five white stones must be thrown in, which implies, as in some other cases, a connection with lithomancy.¹³

There are certain waters which are intimately connected with particular families. Among these may be mentioned the 'Black Mere' at Brereton, Cheshire, concerning which Camden records, "Before any heir of this (Brereton) family dies, there are seen . . . the bodies of trees swimming upon the water for several days together,"¹⁴ and the "Drumming Well" at Harpham, in the East Riding, which has been often described.¹⁵

Naturally, the individual votary was primarily concerned, as a rule, with his (or, more frequently her) own particular future, and wells which were believed capable of imparting information on this head are found at Great Ayton, Yorkshire,

and at Bodmin and Colan, Cornwall, whilst at the following places are wells which make revelations regarding the inquirer's future spouse: Uttoxeter, Staffordshire; S. Mary's Bay, Northumberland; North Kelsey, Lincolnshire; and Madron, Cornwall. At S. Mary's Bay, the Eve of S. Agnes is the appointed day, whilst at Colan it is May morning, and at North Kelsey, S. Mark's Eve. In the Cornish examples, crossed rushes, palm-crosses, or straw are floated on the water. At S. Mary's Bay, the inquiring maiden had to kneel beside the well, with her hands behind her back, and repeat the following formula:

"Agnes sweet and Agnes fair,
Hither, hither now repair,
Bonny Agnes, let me see,
The lad who is to marry me,"

when, "she would be rewarded with a sight of her future husband's face being reflected in the water."¹⁶ The same result was obtained at North Kelsey if the girl walked backwards towards the spring and thrice round it in the same manner, at the same time forming a wish that she might see her future sweetheart. After kneeling down and gazing into the depths, she would have the wish fulfilled.¹⁷

Sometimes an oracular spring is deemed capable of showing whether a particular wish will be fulfilled, as at Oswestry, where this important information could be obtained by first securing an empty beechnut husk, somewhat resembling a human face, and then casting it into the celebrated well of Saint Oswald, with the face uppermost. "If it swims while the diviner counts twenty, the wish will be fulfilled, but not otherwise."¹⁸

At the 'Laugh Lady Well,' at Brampton Bryan, Herefordshire, the votary may know whether his wish will be granted by throwing in a pin and observing whether a bubble appears on the surface of the water. If it does, it is regarded as a propitious sign, but even more assuring is any slight gurgling sound which may proceed from the depths.¹⁹

Of other classes of hydromancy there are only isolated examples, but they are of considerable interest.

The 'Silver Well,' at Cerne Abbas, Dorset, around which several legends centre, reflects the

faces of all who will die during the ensuing year to an inquirer who gazes into the water on Easter morning.²⁰

In Cheshire, the River Dee was said by Aubrey to discover drowned persons by displaying a light over the corpse, a phenomenon which is capable of a natural explanation.²¹

At Sefton, Lancashire, was one of the many wells of Saint Helen, to which resort was had by those who desired to draw conclusions as to the fidelity of lovers and other matters, the method being to throw in a pin and turn the point "to the north or any other point of the compass," though how the "conclusion" was drawn is not made clear by our authority.²²

Finally, in Cornwall, was once the celebrated "Gulval Well," which showed whether absent friends were alive and well, in which case it bubbled up vigorously; or dead, when it remained motionless.²³

In addition to the examples which we have cited, very indefinite mention has been found of prophetic properties attributed to a well at North Frodingham in Yorkshire²⁴ and another at Laneast in Cornwall.²⁵

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² *Berks. Bucks. and Oxon. Journal*, XV, 54; *Anglo-Saxon Chronicle* (ed. Bohn), p. 459.

³ Brand, J.: *Popular Antiquities* (ed. 1849), II, 369.

⁴ Lawley, G. T., in *Midland Weekly News*, quoted by R. C. Hope (note 29).

⁵ *Murray's Guide to Devonshire*, p. 217; Binnall, P. B. G., in *Devon and Cornwall Notes and Queries*, XXI, 124.

⁶ Aubrey, J. *Natural History and Antiquities of Surrey* (1719), III, 47, 48.

⁷ *Loudon's Magazine of Natural History*, 1829, II, 297.

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¹² Burgess, J. T. *Historic Warwickshire*, pp. 14, 15.

¹³ Hope, R. C. (note 29).

¹⁴ Camden, *Britannia* (Gibson's ed., 1722), I, 677.

¹⁵ The most detailed account is to be found in W. Smith's *Ancient Springs and Streams of the East Riding of Yorkshire*, 1923, pp. 60ff.

- ¹⁶ Robinson, John. *Illust. Handbook to the Tyne*, p. 39.
¹⁷ Binnall, P. B. G., in *Lincolnshire Notes and Queries*, XIX, 76.
¹⁸ Burne, C. S. *Shropshire Folk-lore* (1883), pp. 427, 428.
¹⁹ Leather, E. M. *The Folklore of Herefordshire*, p. 13.
²⁰ Hope, R. O. Ms. notes, source not stated.
²¹ Aubrey, John. *Miscellanies* (Lib. of Old Authors), p. 167.
²² Baines, E. *History of Lancashire* (ed. 1836), III, 497; *Notes and Queries*, Ser. 5, X, 158.

- ²³ Quiller-Couch, L.C., p. 75.
²⁴ Smith, W., L.C., p. 66.
²⁵ Quiller-Couch, L.C., p. 115.

NOTE.

Several of the places mentioned above are described by the late R. C. Hope, *The Legendary Lore of the Holy Wells of England* (1893), whilst others occur in that writer's MS. notes for a projected second edition of his book. By the courtesy of Mrs. Hope, these notes are now in my possession. In each case I have given, as far as possible, the original references.

OBITUARY

Alexander A. Goldenweiser, 1880-1940.

19 At his home in Oregon, Alexander A. Goldenweiser died on 6 July, 1940. Born at Kiev, Russia, in 1880, he came to the United States in 1900, attended the Columbia University, where he was under the direct influence of Franz Boas, and took later a degree from that institution. As an instructor in anthropology at Columbia (1910-1919) he started his academic career, continuing later the work at the New School of Social Research (1919-1926) and numerous other American and English institutions.

Social anthropology, actually started with Lewis H. Morgan's *League of the Iroquois* (1851) and *Ancient Society* (1877), was an attractive field of work in America when young Goldenweiser published his *The Social Organization of the Indians of North America* (1915). In this paper, with a leaning toward John R. Swanton, Robert H. Lowie, Franz Boas, J. Mooney, James Teit, and others, Goldenweiser applied a criticism to Morgan's theories of original social organization and added a number of interesting conclusions on the social origins of the North American Indian.

In 1922 Goldenweiser published his *Early Civilization*,

which was to give him his later place in the science of social anthropology. *Early Civilization* is a survey of cultural expressions of primitive society:—economic institutions, economic methods, art, religion and magic, social organization and social relationship. In the concluding chapters of the book Goldenweiser surveys the existing theories of primitive mentality:—Spencer, Frazer, Wundt, Durkheim, Lévy-Bruhl, Freud.

In association with the sociologist William F. Ogburn he edited the valuable collection on *Social Sciences and Their Interrelations* (1927). In 1933 came the publication of Goldenweiser's *History, Psychology and Culture*, one of the most moving contributions to cultural anthropology. A few years prior to his death he published his last systematic treatise under the title *Anthropology: An Introduction to Primitive Culture* (1937) which rounds up the scientific career of a brave and prolific anthropologist. In the history of social anthropology, Alexander A. Goldenweiser will have a remarkable and distinguished place among such men as Morgan, Tylor, Maine, Boas, Lowie, Kroeber, and Wissler.

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REVIEWS.

PREHISTORIC ARCHÆOLOGY.

20 *Prehistoric Communities of the British Isles.* By V. Gordon Childe. London and Edinburgh (W. and R. Chambers), 1940. xiv + 274 pp., 96 text figures, 16 plates. Price 20s.

Professor Childe has wisely seized the opportunity offered by the early months of the war to put together a provisional synthesis of what modern archaeology has made of the prehistory of the British Isles. The conditions were unavoidably difficult, but of the outstanding matter published up to May, 1940, not much has escaped him, and his self-imposed undertaking will earn him general gratitude.

It has resulted in a most valuable book. The flaws which a fellow-prehistorian detects here and there matter very much less than the general view given us of what we have achieved so far. "Not till the hours of 'light return,'" said Matthew Arnold, "All we have 'built do we discern'; but thanks to Childe we need

not now wait till the war is over for an illumination of our labours. Perhaps few of us (the poet was writing about Morality, which is harder than archaeology) will recall 'aching hands and bleeding feet,' but we have certainly toiled to 'lay stone on stone,' and with this book enlightening us we can henceforward improve each black-out hour by looking before and after, judging critically of what is done, and pining constructively for what is not.

Introducing his theme geographically on the lines of Fox's famous *Personality of Britain*, he proceeds to a chronological and a human background. In the one, the time-span from the earliest Neolithic to the Roman conquest is divided, in the manner of Montelius, Sophus Müller or Reinecke, into nine periods; in the other, we get a brief sketch of the Upper Palæolithic, leading forward to the ensuing chapter on the hunting and gathering cultures of the Mesolithic. The easterly

Maglemose element in these issues later in the Neolithic Peterborough culture, but meanwhile the main action of the book opens with the Windmill Hill culture of Period I, western child of the Oriental 'Neolithic Revolution,' and with the varied manifestations of the 'megalithic religion,' characterizing mainly a Period II which this and the Peterborough culture both overlap to meet the Beaker invaders of Period III. Diffusion of the flint-mining industry with the Windmill Hill culture from Egypt is a rather dangerous tenet, involving undue soft-pedalling of its Peterborough element (above all at pit 15, Grime's Graves), but otherwise our Neolithic economy is well outlined. Chronology is less so: the Fen stratigraphy is ill-expounded on p. 42, and one misses a Continental back-scene to show whereabouts in the third millennium B.C. one is: and why is the Lough Gur house our 'oldest known'? The megalithic chapter, with its clear basic tomb-classification and helpful group-nomenclature, marks a great advance, though it is mistaken both to make a unitary group of all unchambered long barrows, and to conflate a single 'Clyde-Carlingford culture' out of the S.W. Scottish and N. Irish gallery-graves, with the former in a morphological sequence not positively supported by chronology of grave-goods. The treatment of the Boyne and Pentland cultures is particularly good, and on 'Religion and Economy' the author is at his best. A pity that he ends by the frolic suggestion of deflating his own chronology to make the whole period 'vanish in smoke'! But this is apparently a joke.

After Peterborough comes in what Childe calls the Skara Brae culture—really based in S.E. England, with Skara Brae and Rinyo representing remote Orkney offshoots. They are brilliantly described, but we miss the merging of the culture's southerly base in the Beaker complex, with which its Continental origins are probably connected, and its arrival in this country probably almost synchronous: to say (p. 84) that it "emerged during periods I-II" is a quite unwarranted slip. The general handling of the Beaker invaders and their culture is admirable (though round-heeled daggers come from Central Europe, not Ireland); actually, they were perhaps not so nomadic as they seem: the Mildenhall Fen islanders were not birds of chance passage; and should we not be ready to trace permanent dwellings beneath many round barrows? Are not 'palisade-barrows,' in particular, just barrows piled on round post-built house-sites at the occupants' decease? Woodhenge, according to Piggott, shows the same round-house type adapted as a sanctuary. On 'henges' in general (and their social implications) Childe is good and lucid: they combine a North-European wood-structure idea with the Western-megalithic stone circle (itself of course independently represented, as in Ireland—note Lough Gur—and the Beaker-land of Aberdeenshire). Meanwhile, ethnic fusion was leading to the emergence of what we still absurdly call the Food-vessel cultures. These are really

only beginning to be understood, and Childe's outline cannot but be incomplete: regional cultures have yet to be distinguished and named in Great Britain (Yorkshire evidence will not explain Scottish), if not in Ireland too; but for the present he has done well to emphasize their economic and commercial activities. Chronologically he over-simplifies: these cultures cannot be used to define a Period IV, and he does not sufficiently bring out their overlappings with Beaker and later with Cinerary-urn phenomena. What does define his Period IV, in South England, is the Wessex culture, the British counterpart of Aunjetitz and Mycenae, with its Egyptian faience beads marking a horizon-stage broadly about 1400 B.C.; and despite a scarcely intelligible reluctance to believe in its immigration from Brittany, he not only describes this and its lordly splendour well, but brings out its importance to the ensuing Middle Bronze Age. Perhaps the most valuable original thesis in the book is that of the Middle Bronze Age urn-culture expanding dynamically from definite centres: the population-map of the Late Bronze Age (in Ireland, too, as much as anywhere) is the result of this process in Period V no less than of the fresh immigration from abroad in Period VI.

The Period VI immigration, which brought in the 'Agricultural Revolution' of staple arable-farming, is less successfully treated. Deverel-Rimbury and West Alpine cultures are not synonymous, the coming of the Hallstatt bronze sword is unexplained (and Llyn Fawr ignored), and with the transition to the Early Iron Age (Period VII) we get the Lowland English position admirably defined, but a handling of the (admittedly difficult) Highland Zone problems which does less than justice to the author's own *Prehistory of Scotland*. The remaining Iron Age chapters are of almost uniform excellence, though they have to be rather brief: the only (at all serious) exception is the old error of equating the art-styles of Hunsbury (Period VIII) and Glastonbury (really Period IX). The derivation of the Scottish broch culture from Cornwall is extremely cogent, and the light on the Irish position from the Cush excavations is (as far as it goes) well thrown. So we reach a short but judicious final essay on the ethnology of the British Isles as they were at the Roman conquest; the paragraphs on the Picts should be especially welcomed. The plates are quite good; though rather unevenly chosen, the text-figures average well. Spelling of proper names is too often shaky.

The author's underlying purpose of revealing prehistoric communities as living social and economic groups sometimes cannot be kept in view because of still defective evidence. But the title is well chosen, for this is the way of future advance. In the days to come, prehistory should become more and more of an anthropologist's concern, and to that end Childe has most signally contributed.

C. F. C. HAWKES.

INDIA.

The Baiga. By Verrier Elwin, with a foreword by J. H. Hutton, C.I.E., D.Sc. London, Murray, 1939. 550 pp., 98 photographs, numerous text-illustrations and 3 maps. Price 30s.

Anthropologists should welcome this human and fascinating book, the first full scientific account of the Baiga, and, though eighty years have elapsed since the formation of the Central Provinces, the first monograph to appear on any of the tribes of its British districts. Its reception has been mixed. Some critics have been offended by the very detailed description of Baiga sex-

life, others by the sombre picture of the effects of official interference or neglect. In the *International Review of Missions* (April 1940), a retired Indian civilian, distinguished for his researches into the Gondi language and his knowledge of the Central Provinces, charged Mr. Elwin with facetiousness and unscientific "gusto" in his account of Baiga sex-life; he closed the book with an uneasy social conscience, in that, "in the name of science the ragged 'purdah' of the Baiga has been violated and the world at large invited to take a good look."

These accusations are baseless. Mr. Elwin has a lively, witty style, familiar to readers of his other works, and no anthropological book is the worse for being eminently readable. He rightly stresses the colour which the Baiga's absorbing interest in sex gives to their poetry and life. There is no 'gusto' in his account; it reproduces the frankness with which the Baiga, like the Maria and the wilder Gond, talk or even boast of their love affairs among themselves, or will discuss them with the sympathetic investigator. The charge of betraying confidence is as absurd as it would be of the author of *The Sexual Life of Savages*, or any anthropologist publishing his field-work. What is remarkable is the frankness and objectivity which Mr. Elwin has achieved in his reporting; many of us would have found the taboos of our upbringing too strong for us. Mr. Elwin's Baiga knew that he was collecting information about them for publication to the world. In two recent tours I have taken this book with me, have shown many Baiga its illustrations, and talked to them of its contents; I can testify to its great general accuracy, and its value as a key to their confidence. Far from resenting anything written in it, they are naively proud that so full a record of their life has been made.

A juster criticism was that much of the information about the Baiga 'holds good of both the Gond inhabitants of the tract and all Hindus north of the Godavari, though little or no indication of this is given.' It is indeed impossible to predicate of many a practice ascribed to the Baiga, that it is peculiarly Baiga or of Baiga origin. The Baiga are scattered over vast areas among a far more numerous Gond and Hindu population. They have long lost their original language, and spoken a corrupt Eastern Hindu dialect. Hinduism has overshadowed their land; conversely their own and the Gond tribal religion and ideas have infected their Hindu neighbours, who do not hesitate to call for the Baiga magician in time of trouble. In all these backward central Indian districts there is an underlying homogeneity of 'primitive' culture, and therefore any book written about one tribe must describe many items common to all tribes; you will find in Grierson's *Bihar Peasant Life*, under the same or another name, many of the domestic and other implements used by the Baiga. Mr. Elwin's task, however, was not to trace origins or parallels, but to portray Baiga life as it is. But what is now badly needed is a sociological study of all the inhabitants of a Satpura sub-division.

Dr. Hutton's foreword traces various parallels between the Baiga and other tribes of India and Indonesia. Parallels can be found nearer home. The vertical fire-drill is used by Korku and Gond in Hoshangabad and Betul Districts, but not in Bastar, where the Maria and Muria use the fire-saw. The use of stilts in the rains is common in Bastar, and the discarding of the stilts on the boundary is part of the Maria *pira-mansha* ceremony corresponding to the Baiga Pola (p. 63) and to the Bida rites at the Baiga Dassera (pp. 401-3). This association of stilt-walking with the rains, the growth of crops, and the public health, is found throughout the Central Provinces. The association of tattooing with the recognition of the dead on arrival in the next world occurs among the Gond of Nagpur and other districts. Dr. Hutton suggests that this is probably frequent in India. Crooke (*Religion and Folklore of Northern India*, p. 298) confirms this, with several instances. Briggs (*The Chamars*, p. 145) mentions the belief that if a Chamar dies untattooed and cannot show these marks to God, she will not join her parents in the next world, but will reappear on earth as an evil spirit. The use of leaves for cleansing is common among the forest tribes of the

Central Provinces. The tearing of the lobe of the ear is a 'major social disaster' in most parts of India. Many parallels exist between Baiga and Maria, and a similarity of physical features, though the Maria are taller and fairer than the short dark Baiga, whom Koppers (*Man in India*, Vol. XX, p. 180) describes as pygmoid.

Chapters I to III describe habitat, material culture, gods, festivals, omens, oaths, proverbs and abuse. The Baiga in 1931 numbered about 32,000 in the Central Provinces, 5,000 in the Chhattisgarh States and 3,000 in Rewa State. Among their affinities might also have been mentioned the *bewar*-cutting Bharia-Bhumia and the Korku, both of whom, like the Baiga, are *Bhumialor* to the Gond. The account of Baiga festivals shows their calendar to be attenuated and hinduized, in comparison to that of the Bastar tribes. The analysis of Baiga terms of abuse, and the examples drawn from their wealth of proverbs, are foretastes of the great later chapters on their psychology. The sections on possession, partition, and inheritance in Chapter II, though brief, are pointers to that detailed investigation of tribal law so essential in the Central Provinces where, it having rightly been ruled that the tribesmen are not Hindu, nor governed by the Succession Act, parties must prove custom, and the lawyers therefore, being entirely ignorant of custom, always try to prove that their tribal clients have adopted some feature or other of Hindu law. Chapter III describes Baiga *bewar* shifting cultivation in the light of world practice, and of the Baiga *bewar* cult. Their tradition that ploughing is tearing the breasts of Mother Earth (p. 107) echoes the Laws of Manu (x. 83-4), which bid the Brahman and Kshatriya avoid agriculture, since the plough 'with its iron point injures the earth'.

The extremely interesting Chapter IV gives, in their own words, brief life-stories of fifteen Baiga. Mr. Elwin considers this his most valuable chapter, as directing us to the realities of Baiga life, and the things that are important to the Baiga themselves.

Chapters V and VI deal with social organization and "jurisprudence." The former is brief and rather weak; it depicts a society changing or disintegrating under the impact of Hinduism, and of contact with semi-hinduized Gond neighbours. This disintegration may account partly for the marked tendency to incest, both between near kin and between persons of the same exogamous divisions, as well as for the growing tendency to marry outside the endogamous *jat*. Further investigation is needed. Mr. Elwin regards the traces of totemism, like the *goti* or *gotra* tribal division with which they are associated, as of Gond origin. The original Baiga exogamous division, the *garh*, he considers to have been based on locality; it would thus resemble the old *garh*, into which the mediæval kingdoms of Chhattisgarh ("the 36 *garh*") were divided, and the Hill Maria clan of to-day. Baiga kinship customs are very like Gond and Maria, with the cross-cousin marriage, levirate, sororate, rules of avoidance (in decay) and joking relationships that are so common in central and south India. The book and the foreword comment on actual instances of grandparent-grandchild marriage; one would have liked definite proof that the "daughter's" "daughter" married by Yogi Dewar (p. 141) and the "grandsons" married by widowed "grandmothers" (p. 180) were not classificatory relatives. Marriages of classificatory grandparents and grandchildren occur among the Gond; but in an article soon to be published in the *Nagpur University Journal* on his investigation of Gond social organization, Mr. M. P. Buradkar makes it clear that the marriage of a grandparent to an own grandchild would not be permissible. "Baiga juris-

"prudence" is a misnomer for Chapter VI, which describes the penalties for anti-social conduct, and the informal *panchayat* of village elders which voices tribal opinion, largely, it is suggested, the opinion of "the women behind the scenes" (p. 206).

Chapters VII to X deal with birth, childhood, the attitude to menstruation, the growth of sex-consciousness, marriage and death; at p. 229 are given some remarkable instances of lactation produced by "milk-medicine" in childless women. Chapter VIII is the chapter that offends the puritan, with its extremely detailed account of what to the Baiga really is the *ars amoris*. It describes also the formal covenants of almost romantic friendships between members of the same sex, common to Baiga, Gond, Oraon and other tribes; Mr. Elwin regards them as the cement of society. In theory, if in a village two households have an equal number of sons and daughters, all in one house must become the *sakhi* friends of all in the other; a case is mentioned (p. 235) of a litter of seven male and one female piglets being made the *sakhi* of a family of seven boys and one girl. The *stiria raj* or periodic revolt of women (p. 238) occurs also among the low castes of Chhattisgarh. Baiga sex-life is an extraordinary complex of eroticism and poetry; against the beauty of the *karma* and *dadaria* love-songs must be set the unrestrained and continual sexual intercourse, which "places a great strain on the usually under-nourished" and often diseased husband, and leads to the impotence "and dread of it" (p. 267) described in the account of their dreams, as well as to promiscuity and widespread venereal disease.

The dead Baiga (Chapter X) is regarded as disintegrating into three forces: (1) the *jiv* (soul, life-essence), that which leaves the sleeping body and experiences dreams, and may be reincarnated; (2) the *chhaya* (shade), which is brought back in the form of a frog or fish ten days after death to live for ever behind the hearth, and (3) the *bhut* (ghost), his lower or evil self, always dangerous, and to be excluded from the house. This conception gives consistency to the varying death rites and precautions. The chapter ends with a vivid account of the hunting of the were-tiger, to lay the ghost of a man killed by a tiger.

Chapters XI to XIV break ground mostly new in Indian anthropology, and show astonishing insight into Baiga psychology, its mythological background ("the central power-house" of their life and energy, p. 305), its magic control of the weather, fertility, animals, love, evil spirits, sickness and witchcraft. The sacrifice of the *laru* pig to Narayan Deo is observed also by the Gond from Mandla to Betul. The psychiatrist is given a mass of material in Chapter XIV; Mr. Elwin concludes that "the most tormenting and readily-remembered" dreams are the nightmares of anxiety and hunger" (p. 430), the absence of sex repression saving them from the conflicts expressed among ourselves in disguised and symbolic sex dreams.

Chapters XV to XVII describe dances, songs, games, riddles and folk-lore. Dance formations are clarified by good diagrams; but the Baiga is a poor dancer as compared to the Bison-horn Maria or the Parja. Many specimens of the songs are given, some in original; the translations are of the same beauty as the collection of Baiga and Gond songs published by Mr. Elwin and Mr. Hiwale as *Songs of the Forest* (Allen and Unwin, 1935). This great and vital "oral literature" is not mentioned in Mrs. Chadwick's recent survey (JRAI, lxix, p. 77).

The final chapter is a reasoned plea for a change in the future official treatment of the Baiga and allied tribes, and for saving them from "an over-hasty and 'unregulated process of 'uplift' and civilization."

The diagnosis will be more widely accepted than the proposed remedies; but of these the reviewer can say little, as he is in charge of an official enquiry into Central Provinces tribal conditions. These tribes are survivals set like islands in a Hindu sea, and the problem now is how best to enable them to stand on their own feet, without social degradation and political and economic exploitation, in the India of the future. The view of an experienced administrator was that "Hinduism is the one widespread influence in the country which has the power to lift the Gonds out of their debased social practices and primitive cult of fear, into a more civilised existence and a higher religious outlook." Books like *The Baiga* are of inestimable value in pointing out to the Hindu majority the conditions of their less advanced fellow-countrymen and, of even greater importance, those elements of tribal culture which are of permanent survival value; there are many.

In any future edition the index should be more carefully and fully compiled, and the spelling of some place-names checked; e.g., Supkar is mis-spelt as Supgar (p. 6), and Supgarh (p. 8), and Surguja as Serguja (p. 2). Some errors also escaped notice in proof-checking.

A final word of praise must be given to the numerous and admirable photographs and line-drawings.

W. V. GRIGSON.

The Blue Grove: The Poetry of the Uraons. By W. C. Archer. With a Foreword by Arthur Waley. London: Allen and Unwin, 1940.. 210 pp., one illustration and a map. Price 8s. 6d.

The new Province of Bihar is fortunate in having as the Superintendent of its Census operations Mr. W. C. Archer, for in the book before us he reveals himself as both poet and anthropologist, a combination of qualities all too rare, but greatly needed in the investigation of tribes for whom a poem is as important as an axe or plough. In his Foreword to *The Blue Grove*, Mr. Arthur Waley draws attention to the general neglect of unwritten poetry by ethnologists. Boas's *General Anthropology* has only four or five pages on song, as opposed to a hundred pages on economic organization. Out of nearly a hundred papers read at the Anthropological Congress held in London in 1934, not one dealt specifically with song. It is perhaps only the traditional poetry of the American Indians, studied in numerous publications of the American Bureau of Ethnology, that has yet received adequate attention.

In the realm of Indian studies, Mr. Archer's book is thus of great importance and significance, and for several reasons. In the first place, the songs he has collected are beautiful in themselves and, I believe, accurately translated. He is a poet in his own right and master of a clear, exact, and economical technique. The book is a delight to read, a compliment that cannot be paid to many works of Indian anthropology.

Secondly, the songs are set with the greatest care and detail against their social and domestic background. The dance songs are related to the different dances and festivals that are the chief cultural interest of the Uraons. The lengthy procedure of an Uraon marriage, from the preliminary negotiations to its consummation, is described and illuminated at every point by the proper songs. I have not seen elsewhere the routine of an Indian tribal marriage so elaborately and interestingly described; such accounts are often almost unreadable, largely (I think) because all the poetry is left out. Mr. Archer reveals the marriage ritual as a logical and coherent process, full of beautiful symbolism.

He has also been fortunate enough to discover, with more elaboration and richness than I have seen before,

some remarkable marriage dialogues and sermons, which he has translated into admirable English prose. The book ends with a fascinating collection of Uraon riddles, which are very largely different from Baiga and Gond riddles, and a careful technical description of Uraon dances.

Mr. Archer is well qualified by his studies of symbolism to throw a good deal of light on the real significance of Uraon songs; he has unearthed much of the stock imagery and revealed its meaning. His book gains great merit from the fact that he has been able to relate the songs to the social system which produced them, that he has grasped the system of imagery employed, and that he has obtained full explanations of dialect words, archaisms, and euphonic distortions. He has thus given us songs which are not only very beautiful, but significant.

VERRIER ELWIN.

Social and Physical Anthropology of the Nayadis of Malabar. By A. Aiyappan. *Madras Government Museum Bulletin, New Series, General Section, Vol. 2, No. 4, 1937. iii + 141 pp., 12 plates. Price 3rs. 2a.*

The greater part of this volume is concerned with social anthropology and the scope of the subject is

conceived as widely as possible. An introductory section discusses method in ethnographic research, and this is followed by accounts of the country and history of the Nayadis, definitions of terms such as 'tribe' and 'caste,' census returns—a corrected estimate makes the total population less than 600—and early descriptions and legends of origin of the people. The main topics treated are the social environment, settlements, material culture, social organization, modes of life (begging and hunting), diet, ceremonies and customs, and religion of the group. In a word, all aspects of the life of the population are discussed and different kinds of evidence are marshalled and co-ordinated in a most readable account.

The Nayadis are said to be "undoubtedly the lowest 'known caste in India,'" and the question of how their lot might be improved is discussed. In the author's opinion the possibility of farmers employing the people as free labourers is the only hope for them.

Measurements and observations of physical characters for 62 men and 42 women are given. For most features, as in their caste status, the Nayadis are found to be midway between the hill tribes and the castes of the plains. They are short, but not extremely so among Indian groups, and their heads are remarkably small.

G. M. M

AFRICA.

African Political Systems. Edited by M. Fortes, M.A., Ph.D., and E. E. Evans-Pritchard, M.A., Ph.D. Published for the International Institute of African Languages and Cultures. Oxford University Press, London, 1940. 301 pp. Price 15s.

Diversities in the forms of political organizations among African peoples are as great as in other features of the social systems. And the data available for a comparative study and satisfactory scheme of classification are still far from being adequate. This book is a collection of essays by competent anthropologists dealing with the political structure of eight tribes in various parts of Africa, and should prove of great value both for the new material it provides, and as a stimulus to others to undertake similar descriptive studies.

In an instructive preface Professor Radcliffe-Brown indicates some of the difficulties of defining the political structure. In some societies the political community is quite indeterminate. Assemblies for religious or ceremonial purposes may consist on different occasions of different collections of people. Yet each may constitute for the time being a political society. The part played by law and war, territorial grouping, differentiation of social rôle between persons and classes, the various forms of political inequality, and so on, are discussed by Professor Radcliffe-Brown, who concludes that the political organization of a society may be described generally as that aspect of the total organization which is concerned with the control and regulation of physical force.

In the first essay Dr. Gluckman deals with the kingdom of the Zulu and shows that the forging of the Zulu peoples into a nation was due largely to sentiments centering around the king and his predecessors. Nowadays the magistrate performs a multitude of duties which the king, for lack of power, organization, or knowledge, can no longer perform. Yet it should not be assumed that "the chief has to maintain as best he can some sort of balance between the requirements 'of European rulers and the wishes of the people'" (Preface p. xxiii). The requirements of European rulers are not necessarily opposed to the wishes of the people, and Dr. Gluckman himself admits that, despite the

tendency to play off the magistrate against the chief, the Administration functions fairly well.

Professor Schapera, too, shows that the Nkwato chief still plays a major part in the government of the tribe. With the extension of European control, his administrative duties have greatly increased. As for the people, though the imposition of European rule has deprived them of their principal remedies against oppression, yet "the stricter means introduced by the Administration to keep the chief under control, and to protect the tribe from abuse, have been generally welcomed." Professor Schapera's account of the village organization is excellent, but his meaning is sometimes obscured by a habit of using the present tense to describe conditions which no longer exist.

Dr. Audrey Richards shows how, among the Bemba, political power is concentrated in the hands of the original lineage-group. Concomitant with this, as a basis for authority, is the belief in the influence of the dead over the living. The magical power of the Chief is due to the belief that he has powerful spirits to help him. Elaborate ritual precautions are necessary to preserve this power and this belief. The Bemba chief, in fact, is one of Frazer's 'divine kings,' and Dr. Richards brings out the political importance of the belief in the divinity of kings as a means of conferring authority, not merely on the king, but on a whole host of priests and other hereditary officials. The loss of authority based on ritual has to a great extent been made good by the Government's system of indirect administration, but the economic resources of the chief are no longer sufficient for the maintenance of the officials on whom he relied.

Dr. Oberg describes the political structure of Ankole which includes a system of 'clientship.' The cult of royal drums is an important unifying agent, as in numerous other parts of Africa, including even Muslim areas of Northern Nigeria. The king himself is said to be the servant of the drum. Of the custom of king-killing it is said that the Bahima liken their king to the leading bull in a herd. When that is beaten by a younger bull 'we kill the leading bull and let the 'strongest of the younger ones take his place.'

Accession wars are the product of the same set of ideas.

Dr. Nadel shows how the peculiar political system of the Kede of Northern Nigeria was bound up with the peculiar environment of this riverain tribe, whose fishing and trading activities extended over the whole length of the lower Niger and Benue rivers. He is perhaps over pessimistic when he says that "the Kede" have now abandoned all claim to political self-realization. Indeed a criticism of most of the articles is that the writers seem preoccupied with the destructive influences at work in African society and fail to give weight to the new forces of integration. Dr. Wagner, however, points out that, while among the Bantu of Kavirondo there is no authority which wields legislative powers, and law is in theory unchangeable, changes are in fact brought about by persons of strong personality, or even by ordinary tribesmen. He has many enlightening things to say about native law, and shows that the amount of social disruption caused by an offence depends less on the kind of offence than on the particular conditions under which it was committed.

Dr. Fortes in a very valuable paper on the Tallensi indicates tendencies which are conducing to the fusion of the old system and the new. The new tribunals are rapidly becoming an integral part of the native political structure. He shows the importance of festivals. War was not an instrument of policy but an act of reprisal. Territorial annexation was incompatible with the form of social structure. Dr. Fortes' terminology is sometimes difficult, and it is not clear how he distinguishes a clan from a 'composite clan,' 'maximal lineage,' or local group. Dr. Evans-Pritchard (p. 284) defines a clan as an exogamous system of lineages which trace their descent to a common ancestor. But not all African 'clans' are exogamous, and even a lineage may split into two intermarrying groups. As regards the difficulty of defining the word 'tribe,' Dr. Evans-Pritchard makes it clear that, in so far as the Nuer are concerned, the term is purely relative. The members of a tribe, however, do not always, as he suggests, "combine habitually" for offence and defence, and may be merely a territorial group of people united by a sense of common culture and language, without even the flimsiest political superstructure. Among the Nuer the political organization varies with the seasons, and people who are united in a common camp during the dry season may form separate communities in the rains.

In their introductory chapter, which would have been more appropriately placed at the end of the book, the editors conclude that the political systems described fall into two main categories.—A. Primitive States and B. Stateless Societies. The former includes those "which have centralized authority, administrative machinery, and judicial institutions—in short a government—and in which cleavages of wealth, privilege, and status correspond to the distribution of power and authority." Stateless societies are those lacking the above features. But this can only be regarded as the roughest of working definitions since numerous societies, which the editors would class as stateless, display some or many of the features of the so-called primitive states. A single independent village-group or canton of the Ibo of Nigeria, who would obviously be included among the 'stateless' societies, may be possessed of some form of central authority, administrative machinery, and judicial institutions, and among its members there may also be marked distinctions of rank and status, which are assumed to be characteristic of 'state' societies. Again it is said that in group A, "the administrative unit is the terri-

torial unit" whereas "in the other groups there are no territorial units defined by an administrative system." Yet in numerous African societies, which cannot be described as 'states,' the territorial unit is, in varying degrees, also the administrative unit. Nor can it be maintained that in group B, "there is no association" class or segment which has a dominant place in the "political structure through the command of greater force" (p. 14). For in many parts of Africa the so-called 'secret societies' may exercise this dominating influence.

As a further mark of distinction between groups A and B it is said that "in the societies of Group A it is the administrative organization, in societies of group B the segmentary lineage system, which primarily regulates political relations between territorial segments." But there cannot be any real comparison or antithesis between an administrative organization of one group and a lineage system of another, since the lineage system is itself an administrative organization.

It may seem curious that in a book called *African Political Systems* there is no mention of standard works such as Lord Lugard's *Dual Mandate*, Miss Perham's *Native Administration in Nigeria*, Rattray's *Ashanti*, etc. There are no references to 'secret' societies, whose authority, incidentally, may be much wider than that of the political group. And little is said about inter-group or inter-tribal relationships, the use of 'ambassadors,' arbitrators, and so on. But the editors themselves regard the book as "the first stage of a wider inquiry." As such it should be welcomed by students and be of use also to administrative officers of the Colonial Service.

C. K. MEEK.

The Study of African Society. By Godfrey Wilson and Monica Hunter (*Rhodes Livingstone Papers* No. II), Livingstone, N. Rhodesia (Oxford, Blackwell), 1939. 21 pp. Price 6d.

This paper has been written primarily to help Europeans who are sufficiently interested in the Africans among whom they live, to wish to make some systematic study of their customs. Such study is of direct practical use, not only in public administration, but in mission work, in education, in business, and (not least) on the farm and in the household. Though African cultures are for the most part without historical perspective, and have necessarily been studied as a complex of 'visible, present fact,' changes can be recognized, and are becoming more significant as contact between African and European becomes more intimate and active. All the more need, then, to appreciate the conservative elements, and the background of them in the cultural past; and these must be studied in their regional environment also, in the rural portions of a tribal area; and with this experience in hand, even the disorganized element in the towns and mining centres may be found more instructive than at first sight.

On these sensible lines, this short essay sets down the essentials of sociological study in Rhodesia, and South Africa generally, with practical hints for elementary field work, and some instructive instances of current problems and their solutions. There is also a select bibliography, and a cordial invitation to bring facts and fancies alike to the Rhodes-Livingstone Institute for discussion; for as is well said at the end "the moment of dispassionate understanding is not complete until it has been clearly communicated to other men."

J. L. M.

The Constitution of Ngonde. By Godfrey Wilson (Rhodes Livingstone Papers, No. III). Livingstone, N. Rhodesia (Oxford, Blackwell), 1939. 86 pp. Price 2s.

This third paper describes the traditional political constitution of the Ngonde, a Bantu tribe in the extreme north of Nyasaland, and the profound changes which modern conditions have made in it. Through these changes a certain continuity is apparent, in the constitutional sphere, but Mr. Wilson thinks this is very much slighter than is usually assumed by writers on Africa. This study has been made by Mr. and Mrs. Wilson under the joint auspices of the International Institute of African Languages and Cultures, and of the Rockefeller Foundation, and the author acknowledges the critical comments of Dr. Max Gluckman. In a historical

'chronicle of Ngonde' the religious, economic, legal and military elements are examined separately. The turning point is set in the year 1875 when written records begin to supplement the oral tradition, and Arab traders in slaves and ivory established themselves and disputed with the Europeans the control of the district. The development of the modern constitution, more autocratic and centralized, illustrates the complexity of the situation, and unexpected interplay of political, economic, and personal factors. When wealth and chieftancy are no longer synonymous, when tribal religion is in decay, and when easy transport destroys old tribal isolation, fresh questions arise continually, which it is difficult for the Government to avoid offering solutions, with such anthropological knowledge as it may have.

J. L. M.

AMERICA.

Contributions to American Ethnology III. 13-19. Carnegie Institution of Washington, U.S.A., 1937. 231 pp.

Again we have to welcome another of these valuable publications. The first paper is by Mrs. Redfield on the *Folklore of a Yucatecan Town*. She says that her method of approach may be called functional, in that it is not interested in the tales either aesthetically or historically, but rather as illustrating the point of view of the people themselves. No doubt the point of view is important, but, as is apparent with other writers also, the too functional attitude, with its exclusion of historical and other interests, has the very regrettable result of leaving much valuable ethnographical material unrecorded, which will be lost for ever if not now written down. No amount of subsequent theorizing will make up for the loss of the material on which theories can be based, and the loss is particularly deplorable in the Middle American regions, where the folklore might throw light on the great ancient cultures.

The second paper is by Mr. J. E. Thompson, with appendices by him, and Laurence Roys and R. C. E. Long, and deals with the correlation question. In the preface Thompson states that he has incorporated in his own main argument several important points raised by Long. This paper is of great importance. It examines not only the correlations which have received extensive support, but also two hypothetical shorter ones which would appeal to the ceramicists. The conclusion arrived at is to confirm the Goodman-Thompson correlation. Since the paper was written, the progress of ceramic research makes it still more probable that this correlation is correct, subject to a possible adjustment of one or two days. The reviewer is very strongly of opinion that there was no break in the *tonalamail* count, and to this extent he differs from Thompson. Such is also the view of Mr. Oliver La Farge in an important paper in *Maya Research*.

The third paper is by Dr. A. V. Kidder on the *Ruins of San Agustín Acasaguastlan*, in a part of Guatemala, which has been hitherto almost unknown archaeologically, and consequently, as he says, no conclusions can as yet be drawn regarding its local relationships; but the site shows evidence of being contemporaneous with the Old Empire. Doubtless more light will be cast upon it when the ceramics have been fully studied. In any case it is a matter for satisfaction that this region has now received scientific attention.

Next follows a short paper by Mr. Gustav Stromsvik on *Metates* from Calakmul and from the Mercado a Chichen Itza.

The fifth paper is a very interesting contribution by

Mr. H. E. D. Pollock on the *Casa Redonda at Chichen Itza*, which further develops his former conclusions on round structures in general.

Then follows a paper by Francis G. Benedict and Morris Steggerda on the *Food of the Present-day Maya Indians of Yucatan*. The results are of much interest with regard to the energy value of the food. On the whole the main foods are much the same as in pre-Spanish times.

The last paper is a study of the *Structure of A.I. Complex at Uaxactun* by Mr. Robert E. Smith. This complex is one of the most important at the site and also has a very special interest on account of the polychrome vase with an initial series having been found there. The author gives a very full and interesting account, which is easy to follow owing to the accompanying plans. The many chronological questions arising from the positions of the dated stelæ and from the ceramics are fully discussed.

Altogether this volume of the Contributions is indispensable for the Maya student.

RICHARD C. E. LONG.

Handbook of Latin American Studies: 1938 Harvard University Press (Oxford University Press), Cambridge, Mass., 1939. xvi + 468 pp. Price 22s. 6d.

This is the fourth annual issue of the Handbook, which is actually a bibliography, and covers material, books, and papers, published in 1938, though a few items from 1937 are included.

The anthropological sections, which include archaeology and ethnology, are preceded by introductory notes, containing accounts of expeditions and field-work undertaken in 1938: the entries themselves have been carefully selected and fully annotated, and great care has obviously been taken to avoid typographical errors and bibliographical inaccuracies which so often mar a work of this kind.

A new section on *Libraries* will be welcomed; it gives accounts of libraries and library-work in some of the Latin American Republics, and should prove useful to students who are unaware of the progress made in this direction.

In further volumes of the *Handbook* it is hoped to introduce some measure of *Union Cataloguing*, and this should facilitate inter-library loans, and be of service to students and others. A *Union Catalogue* lists in one alphabetical sequence the contents of a number of libraries; it is a unification of copies of the catalogues of several libraries.

The *Handbook* is compiled by a number of distinguished American scholars in Latin American Studies for the American Council of Learned Societies, and can be relied upon as an authoritative guide to the current literature in this interesting field of research.

L. J. P. G.

Population Trends Among the California-Mission Indians. By S. F. Cook. *Ibero-Americana*, No. 17. Berkeley and Los Angeles: University of California Press, 1940, viii + 48 pp.

The Ibero-Americana series of the University of California, under the edition of A. L. Kroeber and C. O. Sauer, have proved to be a very useful means in presenting socio-anthropological and anthropo-geographical materials on Latin America. A. L. Kroeber, C. O. Sauer, P. S. Taylor, P. Meigs, S. F. Cook and others have contributed valuable studies, most of them related to Indian tribes of north-western Mexico (Lower California and the coastal strip of the mainland with the Sonoran desert).

Sidney F. Cook (University of California), who approaches the problem from the standpoint of natural science rather than from that of an anthropologist, has

made an interesting contribution to the population-history of California. This short study has for its object population trends among the Indians settled around and attached to Spanish Franciscan missions (1769-1834). The mission territory, beginning at the 'Frontera' south of San Diego (the missions in Lower California were established and conducted by Jesuits and Dominicans), and stretching to San Rafael and Solano in the north, was spread over the coast regions of the country and covered a large number of Indian tribes and families, known under the general name of 'Mission Indians' (Diegueños, Gabrielinos, Fernandinos, Luiseños, Costanoans, Salinans, Chumash, and others).

The basic materials on the numbers of Mission Indians are the *libros de misión*, in which events at missions were recorded by Franciscan padres. The books contained records of baptisms, deaths, and marriages (births were not recorded) in the respective regions. On that material Cook has based his study of population trends. General movement, birth rates, sex ratio and age distribution for the mission period (1769-1834) are discussed. It is a good contribution to the interpretation of the decline of the California Indian population in addition to the work done by Kroeber.

NICHOLAS MIRKOWICH.

OCEANIA.

Vikings of the Sunrise. By Peter H. Buck (*Te Rangī Hīroa*). New York: (Stokes), 1938. xiii + 335 pp. Price 3.50 dollars.

In this book the Director of the Bernice P. Bishop Museum sets out to 'make known to the general public some of the romance associated with the settlement of Polynesia by a stone age people who deserve to rank among the world's great navigators,' (p.v.), and the narrative keeps fairly closely to this aim.

The opening chapters deal briefly with the geographical setting of the story and with the racial history of the Polynesians. The problems of their original homeland, and of the routes into Polynesia are discussed, not altogether satisfactorily in view of the public to whom the book is addressed. Short accounts of the social and historical factors behind the movement, the motives and conditions, and of the ships in which the voyages were carried out complete the general introduction.

The bulk of the book consists of a series of chapters, each dealing with one of the main lines of movement from the Society Islands, the centre or 'hub' of Polynesia. The treatment is somewhat discursive, and largely historical in content. The author's remark in the chapter, 'Ships and their Builders,' that he is 'more concerned with the mental and emotional attitude of the Polynesians toward their ships,' (p. 35), sets the tone of this part of the book generally. Social organization, economics, ritual and religion, material culture and so forth are referred to, for the most part, incidentally. The author does not attempt to assess the factors responsible for the exceptional emphases, the 'cultural peaks' of the Polynesian cultures, such as the keeping of genealogies, the prominent part played by myths and traditions, the poetic genius manifest in their formulation, or their remarkable cosmogonies. The social contexts of the myths and genealogies, their relation to everyday life, are not clearly or consistently indicated, with the notable exception of the chapter on 'Ships and their Builders.' As the reader is introduced so to speak, to the complexities of the myths and genealogies with little preliminary explanation, this lack

of context gives the story an air of abstractness, which may leave its intended readers either a little bewildered, or else with a rather unreal picture of the Polynesians and their achievements. The book ends rather abruptly with a short account of the distribution and spread of plants and animals throughout Polynesia.

Perhaps what emerges most clearly from Dr. Buck's treatment of a subject upon which he is peculiarly qualified to write, is the reality of their past for the Polynesians. In Polynesia the present is so clearly bound up with and dependent both upon a vividly remembered and meticulously recorded past, and upon relations between different communities often far distant from one another, that the impossibility of ignoring or denying these factors in studying social behaviour is made obvious. Consequently *Vikings of the Sunrise* does important service by re-emphasizing the reality and significance of the past in the study of so-called 'primitives,' 'peoples without history,' and the necessity of making allowance for this in the analysis of their cultures. These have undoubtedly been strongly conditioned by the accidents of their past, but because they lack the formalized modes of expressing historical continuity which the Polynesians are fortunate enough to possess, that past is usually more elusive and less easily demonstrated on conventional historical lines. It is liable, therefore, to be ignored or to be put on one side as unknowable. It is, none the less, a vital factor in any attempt to reach wider sociological generalizations.

The book is well illustrated and indexed, has adequate maps, and a short bibliography to each chapter, composed largely of B. P. Bishop Museum reports. C. E. J.

Ethnologische Studien an Indonesischen Schöpfungsmythen. Ein Beitrag zur Kultur-analyse Sudostasiens. By Dr. W. Münsterberger. *The Hague (Nijhoff)*, 1939. 244 pp.

In his comprehensive study of Indonesian creation-stories, Dr. Münsterberger has collected, mostly at first-hand, a mass of material of considerable interest to folklorists, while his 'culture analysis' is not without

significance for those engaged in more specifically ethnological investigations in South-east Asia. Over the indigenous population of the Indian archipelago two cultural streams have left a permanent influence, the one proceeding from the continent eastwards to Melanesia and Polynesia; the other spreading from Java in a northwest-by-northeast direction. The earlier invading group was characterized by mother-right, interment, agriculture, and a fertility cultus centering in the earth as the primeval mother. This was followed by a megalithic people with a phallic cultus, and ancestor-worship who had adopted the practice of head-hunting.

Against this ethnological background Dr. Münsterberger describes and analyses the various versions of the myths he has collected among the Nias and Batu in the islands adjacent to Sumatra, in the Mentawai archipelago, among the Kubu and Batak of Sumatra, and in Borneo. The pre-Austronesian myth-motive, he believes, is the Earth-mother principle, in which the most primitive material symbols, such as the fruit-trees, and eggs are found. With this is associated the custom of eating the earth as a divine exorcism. The antiquity of the motive, he thinks, proves that the Earth-mother represents the most ancient belief. Between the culture of the Northern Nias and that of Central Borneo he finds a relationship which he refers back to the megalithic influence, which also recurs in the creation-stories of the

Southern Nias, and in those of North Borneo. The idea of the human race emerging from a stone is also found in Assam, Formosa, the Philippines, Eastern Melanesia, Micronesia, and Polynesia, indicating perhaps the diffusion of the megalithic culture in the area.

Apart from missionary influence, there is no evidence (he thinks) of a High God as the Creator in Western Indonesia. Against Sandermann and Schmidt, who regard Lavalangi as the All-Father in the Northern and Central Nias, Dr. Münsterberger maintains that this being is simply the 'Race Father' or 'tribal Mother' of Gold' rather than the highest God. Taking the evidence of the myths as a whole, certainly it would seem that the idea of creation is much nearer to pantheism than to monotheism, so far as the terminology of the higher religions is applicable at all to primitive mythology. Moreover, there are several indications of Hindu ideas and symbols in the substratum of Indonesian culture, which may suggest continental influences moving more in the direction of 'monism' than 'monotheism'; if any such movement is to be detected among peoples who are pre-eminently in a primitive state of culture.

Apart from questions of analysis and interpretation, this is a valuable collection of first-hand material from a region of peculiar interest for the anthropologist.

E. O. JAMES.

AUSTRALIA.

Australia. By Griffith Taylor. London: Methuen, 1940. xvi+455 pp. Price 21s.

32 Though discovery, structure, climate, vegetation, settlement, economic life are all treated in a proper sequence, this is no ordinary textbook, but the expression of Professor Taylor's vigorous and uncompromising mind, studying the difficulties as well as the opportunities of the Australian environment. The hopeful and (in a considerable measure) successful fight against introduced pests such as rabbits, feral or wild dogs, cattle tick, and prickly pear make cheerful reading. The Australian tropics he thinks will not attract many settlers of British type while there is room in temperate regions, but he hopes that 'central cooling' of the houses may be a help. He urges that conquest of disease is only a part of the struggle for utilization of the tropics by Britishers; their women try to go to the temperate zone for childbirth, the babies grow well for two years and then need a more temperate environment for healthy development. No doubt the mode of life could be better adapted to the hot lands. Taylor appears to endorse Cilento's opinion that the hours of work should be 6 a.m.-2 p.m., though he criticizes Cilento's views as to the large prospects of the Australian tropics. The Queensland death-rates for all ages, save the young children, mostly of healthy young parentage immigrating to the hot lands, are higher than the general Australian rate for most ages, and the difference is much more marked among males than among females. Taylor gives an important analysis showing that 20 per cent. of Australia is useless even for stock; 22 per cent. is fair pastoral country, save during fatal drought-years; 34 per cent. is good pastoral land; 8 per cent., in the

temperate zone, might be fairly closely farmed, but has less than twenty inches of rain; 13 per cent., in the temperate zone again, has better opportunities of cultivation because it has more rain; and 3 per cent., in tropical Queensland, has rainfall distributed uniformly enough through the year to make cultivation possible. All these possibilities are considered in relation to a population of the present type, and Australia's present life depends, therefore, on its defences. One would like to have Professor Taylor's comments on suggestions by some Australians that the island needs for its economic development, and the maintenance and increase of its population, a peasantry, presumably with the modes of life of eastern or southern Europe. The more habitable east and south may, Taylor thinks, increase their population to some twenty millions in the course of time; the whole of Australia has now a little more than 6½ millions, with over 3 millions of these in the capital cities.

H. J. F.

The Native Tribes of Central Australia. By Baldwin Spencer and F. J. Gillen. Reprinted with a preface by Sir James Frazer, O.M. London: Macmillan, 1938. xxiv + 672 pp. Maps and illustrations Price 25s.

33 This is an exact reprint of the edition of 1899, with four pages of introduction emphasizing the significance of the observations of Spencer and Gillen on native knowledge of physical paternity, the totem system of the Central tribes, and their classificatory system of relationship. As the book has long been out of print, this reprint is very welcome.

J. L. M.

EUROPE: RACIAL.

(a) **The Races of Europe.** By Carleton Stevens Coon, New York (Macmillan), 1939. xvi + 739 pp., 38 figs., 16 maps, and 46 plates. Price 31s. 6d.

34 (b) **Le Peuplement de l'Europe: État Actuel Origines et Évolution.** By Georges Poisson. Paris

(Payot), 1939. 373 pp., 6 maps and 13 plates. Price 50 francs.

(c) **Die Oetztaaler: Anthropologie und Anatomie einer Tiroler Talschaft.** By Gustav Sauser. Innsbruck (Natur-med. Verein), 1938. 490 pp., numerous figs., 1 map and 148 plates.

(a) Dr. Coon's book is of outstanding importance. It is Ripley's *Races of Europe* entirely rewritten and brought up to date and the author dedicates the volume appropriately to his predecessor. Ripley's work (1900) was based on an exhaustive examination of the nineteenth-century literature, and this must have been at least doubled in the present century. Dr. Coon's survey covers the whole of the extended field with the exception of a corner of it noted below, and his fully documented compilation will be invaluable. It is inevitable that some should disagree to some extent with his interpretation of the evidence, since there is as yet no unanimity of opinion among anthropologists regarding methods of racial classification. The less safe generalizations of the first *Races of Europe*—particularly those regarding the relations between environment and physical characters—are abandoned; but the author of the new volume was necessarily obliged to adopt certain general principles. These are stated clearly in the introduction, where a single sentence sums up his attitude:—"If there is one 'consistent theme in this book it is that physical anthropology cannot be divorced from cultural and 'historical associations, and that there is no such thing as 'pure' biology, at least in reference to human 'beings."

The systematic collection of records relating to physical characters of anthropological significance began less than a century ago, but they form already a vast *corpus* of material, scattered chiefly in a few hundred periodicals. There had previously been much discussion of racial problems, based almost entirely on early historical records and language distinctions. In the modern scientific literature of the subject, increasing significance was attached to the biological evidence as it became more extended, and inferences drawn from cultural data were modified or abandoned. Dr. Coon's contention, which is accepted by most anthropologists to-day, is that the cultural and physical evidence must be considered together in treating racial problems. It is possible to argue, however, that a classification of races should be based entirely on the biological data, and that the historical records and language groupings give a false impression of the biological situation. Advocates of

this extreme view still make use of cultural material in order to select groups of people suitable for comparison, but their final deductions are derived solely from the evidence of physical characters. The most recently collected records, viz., those for blood groups, are not discussed in this book, but the comprehensive survey of the extensive literature relating to living people and skeletons provided in it will be constantly consulted by all later workers in the field, whatever their views may be regarding methods of racial analysis. The numerous photographs of 'types,' distribution-maps and text-figures are interesting and useful.

(b) *Le Peuplement de l'Europe* deals with a very similar topic, but it is concerned with the peoples rather than with the races of the continent. As an introduction, a sketch of the existing racial situation, following Montandon, is given. This is followed by an account of the origins of the peoples and their civilizations, and of the changes which took place down to the beginning of the historic era, judging from archaeological and linguistic evidence. This subject has enlarged its scope enormously in recent years, and there is ample justification now for the conclusion that: 'les nations européennes devraient se considérer comme sœurs, d'une part en raison de la composition analogue de leur sang, et d'autre part à cause de la parenté étroite de leurs cultures et de leurs langages.' It is surely to be hoped that: 'ces considérations fissent disparaître, ou atténuent tout au moins les préjugés de race encore si violents à notre époque.'

(c) *Die Ötztaler* differs from the other two books in being a description of new material. It is a detailed report—complete with measurements, diagrams and photographs—on 1,100 skulls, smaller series of bones of other parts of the skeleton, and 260 living people. There are also sections on *Lebensraum* (population questions) and *Talschaftspsychologie*. Austrian anthropologists of earlier generations had paid particular attention to the Tyrol, and the new data conform with theirs. The skeletal (other than cranial) measurements are particularly welcome, as there is a need for far more of them for comparative purposes. G. M. M.

TECHNOLOGY.

The Welsh House: A Study in Folk Culture. By Iorwerth G. Peate. London: Hon. Soc. Cymmrodorion, 1940. xviii + 232 pp. Price 15s.

This authoritative book on the subject of folk culture in Wales is entitled to the fullest consideration by the antiquary. The evidences have been collated from actual facts, thus providing an exemplar for similar surveys of ancient houses in other parts of the Kingdom.

The approach is on scientific lines and aims at describing primitive cultural development. The author maintains an *a-priori* view-point, and challenges the machine age which has proved so disastrous to country life. Down to the middle period of the nineteenth century, types of very ancient Welsh houses were still in existence, and what is even more important, decency in domestic architecture was not unknown.

Many authorities have been content to record antique architectural idioms, with the result that systematic inquiry into the regional characteristics of domestic buildings has been neglected. Reflection shows this policy to have been one sided, in fact almost as futile as the pursuit of the picturesque which was undertaken by the mythical Dr. Syntax. Formerly there was expression in Welsh building, particularly in the dwelling

houses of the country folk; and what is true of Wales, in this regard, applies with equal force to the distinctive regional architecture of England, Scotland, and Ireland.

The inference is that a species of family roof-tree was once in existence. Herein is an explanation of the common forms of stone built houses of Cornwall, of Westmorland, and of nearly every part of rural Scotland. Once this factor is grasped the structural integrity of the Irish cabins of the West, or the form of the long, low cottages of Cornwall will be appreciated.

It is rightly observed in this book that the traditional types outcrop only here and there from beneath a deep stratum of a later overlying culture, but it is these types that offer the finest lesson. No serious book is ever written merely to state facts; there is presumably an ulterior purpose. The service of this work is to awaken the national curiosity to the beauty and seamliness of houses which form part of the Welsh landscape.

The author stresses the point that the peasant formerly built as simply as possible in the local material available; and he indicates not only the circumstances of geography and geological conditions, but the fact that consideration of building materials is all that really matters. For this reason the Chapter on available

building-materials is given pride of place. It is to be hoped, therefore, that post-war legislation will envisage the revival of the employment of local materials, and that the lessons so ably expounded here will be taken seriously.

Speculation is aroused regarding the circular form of the Welsh house, particularly of the primitive hut dwellings, with their various methods of construction. The author quotes Giraldus Cambrensis, who, writing in the twelfth century, referred to temporary dwellings "for service for a year." The sleeping accommodation being described, "they sleep together, on a bed common to all laid along the sides of the House." The important fact is added that the fire was at the feet of all of them, from which it may be inferred that the structure so described was a circular house.

Consideration of the circular buildings of Wales which belong to hut types, and reference to similar works in Scotland and Ireland as well as the Gaulish houses on the Antonine Column, form part of the description. There can be no doubt of the fact that the derivation of circular forms from spar construction, and the avoidance of quoins at the angles, played no small part in the technique of Welsh circular buildings. The fact that many of these circular stone buildings have descended to the purpose of pig stys and dovecots does not detract one iota from the main theory. The rectangular house and the long house are described very fully in Chapter IV.

In each of these latter types the structural system is traced to the ridge-piece or roof-tree, called *nembren* in Welsh. This horizontal rod, supporting the poles or rafters on either side of the sloping roof, has never been superseded in construction. The old builders in particular attached implicit faith to its strength and were at pains to give it abnormal support. Attention is also directed to houses which have gable chimneys and those where the chimney emerges from the centre of the roof, the conclusion being drawn that the prevalence of the central chimney in old Welsh houses constitutes a link between the circular and rectangular form of building. The author adds that the fundamental issue which decided the layout was the need to provide shelter for both cattle and men. Nant-yffin Llandeilo, Carmarthenshire, Tyndolan Llangeitho, Cardiganshire, and Gwastod, Abersnenniig in the same county are given as examples. These types contain the embryo of the Welsh long house, which is still a feature of the country landscape. As might be expected the type developed from a traditional plan, in which the components are: (1) a living-room, or house-place, with central hearth and fireplace and a loft over; (2) the cattle-byre and barn, with subdivisions, and gutter for urine and dung. It is only fair to say that Mr. Peate's survey was carried out forty years after the report of the Welsh Land Commission and has been handicapped by the fact that so many buildings had been 'improved and modernized.' Mr. Peate's short descriptions of individual examples cannot be commended too highly. The explanations are clear and the references to other authorities are substantial. From thence to the two storeyed descendants of the 'long house' is an easy stride. We are carried to the period of the late eighteenth and early nineteenth centuries, which Pennant and other travellers knew so well. It is to these types that the architect and student of to-day reverts with interest.

Mr. Peate evidently shares the view held by the famous Professor Gaudet, 'reason is the basis of design.' In carrying the subject yet a stage further, to the rectangular house and the cottage, he shows that the reason for the presence throughout the countryside of a large number of small houses of the cottage type was due to the small farmers, labourers, and craftsmen, who were completely dependent on the land. These small steadings, or as they have long been known in Wales *tyddyn*, plural *tyddynod*, formed the main nucleus of Welsh peasant homesteads until the official overthrow of the Celtic system, when a partial desertion of the countryside followed. To-day the *tyddyn* is in danger of complete extinction, unless the trek to the towns can be arrested. Mr. Peate's main conclusion, and there is no reason to disagree with it, is that the Welsh cottage belongs to a culture evident throughout the Celtic zone of the British Isles.

The house forms described in the Welsh manuscripts before the fifteenth century belong to Venedotian, the Demetian and the Gwentian codes. These were the tribal houses, related in some measure to contemporary Romano-British houses. The illustrations of an old farmhouse in the Strata Florida district of Cardiganshire convey a good idea of the type and permit a mental reconstruction. The author has studied every known authority, and he has formulated an accurate account of social life and family customs.

Architectural students will be especially grateful for the chapters on stone and half-timbered houses, which are related to mediæval building technique. Such characteristic features as porches, doorways, round chimneys and interior features are described and illustrated.

It is, however, the actual facts of ancient building construction which throw the strongest light on the folk culture of the past. Mr. Peate deals with cruck construction as it was practised in Wales, giving illustrations of two outstanding examples, in Denbigh and Merionethshire. He describes the way in which floors were formed of earth, or alternatively of pitched stones or pebbles laid in geometric patterns. He also deals with roof coverings, fissile stone tiles and slates. Finally there is an account of doors, windows, and partitions.

Mr. Peate has placed the antiquary, the architect and the student deeply in his debt, providing a silver key to the whole tradition of Welsh domestic building from early times to the end of the eighteenth century. Like all thoughtful men, he deprecates the barbarism of modern civilization and he is hopeful of a return to simple building idioms. Such hopes are not so impossible as they might have appeared even ten years ago. Economic laws are directing the revival of agriculture, and with this will come an acknowledgement of the appropriateness of local materials. It will be realized that cottages, farmhouses and village dwellings are not to be produced in mass formation at demand, neither can they be designed to accord with commercial formula. Two things only are needed: the awakening of the regional conscience is one, the other is the rewriting of the building by-laws by a poet.

In the meantime Mr. Peate's book has a moral value which is in direct opposition to hot-house theories.

A. E. R.

CORRESPONDENCE.

The Meaning of the Cowrie: The Evil Eye in Nigeria

(Cf. MAN, 1940, 78).

36 SIR,—In MAN, 1940, 78, I adduced some evidence from Nigeria to show that the cowry was sometimes used as a symbol for the human eye, and I instanced

the practice among the Tiv of fixing cowries to represent eyes in the wax images of ancestors. In an extremely interesting letter in the same issue (MAN, 1940, 79), Dr. Jeffreys quoted Sir Grafton Elliot Smith as saying that cowries were often inserted into the orbits of mum.

mies to represent eyes, and that these shells were commonly used for averting the Evil Eye. Dr. Jeffreys went on, however, to show that Sir Grafton Elliot Smith later expressed the view that the cowry was fundamentally a fertility charm, from its resemblance to the female genitalia.

In support of this latter view, Dr. Jeffreys stated that "in Southern Nigeria the Evil Eye is practically unheard of." This surprised me since almost everywhere in the Northern Provinces of Nigeria the Evil Eye is very much feared. Pregnant women are afraid of being "overlooked," parents are afraid of the Evil Eye on their children, and farmers on their crops. The food of chiefs and priests is often prepared and eaten in secret, as a precaution against witchcraft projected from the eyes of sorcerers; and the Nigerian custom, by which Chiefs used to speak from behind curtains, is explained by some Nigerians as a defence against the Evil Eye of subjects, though others would say that it protects the subjects from the "magical eye" of the chief. The Hausa, indeed, have a proverb, *ido guba ne*, "the eye is poison." In explaining this term Dr. Bargery's *Hausa Dictionary* says (p. 473): "The human eye is considered to possess a power of evil, and therefore if a person is partaking of any snack of food he will give a morsel to an onlooker; similarly a patient will hide a wound from an onlooker." Animals can kill with the flash of their eye. Thus (to quote from my book, *A Sudanese Kingdom*, p. 418), "the roan antelope, when it has been severely wounded and lies down to die, keeps one eye open, and if the hunter approaches it before it has died, and meets its dying glance, he will be pursued by the animal's ghost, until his own soul has been captured." Incidentally, this power of killing with the eye is attributed by classical writers to the West African *catoblepas*, which is assumed to have been one of the antelopes. Mela, for example, says (III. 9), "More noteworthy still is the singular power by which, though with charge and bite he does not vent his rage, to behold his eyes is instant death." Similarly the flash from the eye of the dying Jukun king would kill his murderers, and that is the reason given for killing the king by strangulation—the murderers pulling the rope from a distance and averting their eyes to avoid his. (*A Sudanese Kingdom*, p. 166). In the Hausa language, the expression "he stared or gazed at him" is "*ya zuba ma sa ido*," literally "he poured over him his eye." "He used some magical power over him" is "*ya zuba ma sa k'wari*": see *Hausa Dictionary*, p. 1143. This shows quite clearly that the *k'wari* or magic is regarded as projected from the *ido* or eyes, and indeed *k'wari* is defined in the dictionary as "the power to mesmerise" (p. 689). It is from the same root (*k'wari*) that the Hausa word *k'warmi*—"a person with deep-set" (i.e., mesmerising) "eyes"—is derived (see *Dictionary*, p. 691, and also the word *k'waro* = wizard. *K'wari* and *k'ofi* are the Hausa equivalent of, or approximation to, the Melanesian *mana*).

Another Hausa expression for "he gazed" is "*ya yi wuri da ido*." "*Wuri*" is shown in the dictionary (p. 1094) as meaning "gazing in wonder, surprise, fear." *Wuri-wuri* means "in startled, terrified, amazed condition" (p. 1094). The more common expression "*wuri da wuri*" means, "manifestly," "openly," or "face to face." The word "*wurk'ila*," which is said to mean "to screw up one eye to look at a person," is obviously a compound of *wuri* and *k'ila*, a root meaning "very small." Similarly *wurk'ilili*—"a person with only one useful eye" (p. 1095).

Now it happens that the Hausa word for 'cowry' is *wuri* (plural *kur'di* or *ku'di*), and although the dictionary

indicates a slight tonal difference between *wuri*=stare and *wuri*=cowry, this tonal difference (if indeed it exists) would not prevent the two words from being genetically the same, since tonal differences are often introduced in African languages to distinguish secondary from primary meanings. Students of Hausa have often wondered why 'cowries' (in the plural) should be *kur'di* whereas 'cowry' (in the singular) is *wuri*. I think we now have the clue. *Kur'di* (or *ku'di*) is simply the Hindi and Urdu term *kauri*, whereas *wuri* is a native African word meaning "eye." Whether the common Hausa term *magani* for (a) 'charm,' (b) 'magical power' or 'medicine' is derived from the Hausa word *gani*—"to see," I should not like to say, but it seems a possibility.

Since writing the above I happened to recall that there was another, though little used, Hausa word for 'cowry,' viz., *ijiya*, and on looking up this word in the same *Hausa Dictionary* (p. 475) found that it bore two meanings, (a) 'an eye', (b) 'a cowry.' Thus, in the Hausa language, which must be spoken by close on ten million people, the only two words for 'cowry' (in the singular), viz., *wuri* and *ijiya*, have also the meaning of "eye"—a remarkable confirmation, from Nigeria, of the view advanced by Dr. Margaret Murray.

C. K. MEEK.

The Meaning of the Cowrie: Fiji, Egypt, and Saxon England.

37 SIR,—In days such as these, when many of us seem almost entirely occupied in finding out how many of the local inhabitants have or have not a great-coat or anti-gas ointment, it is pleasant to find that a discussion such as this can still be carried on. It bears some resemblance to the traditional debate among the leaders at Byzantium at the time when the Turks forced its defences, which, so the story goes, was on the subject of whether Adam and Eve had navels.

In the present case it seems to the ignorant onlooker that there must be at least two distinct answers to the question.

(1) In Fiji, over fifty years ago, a cowrie shell actually represented the price of a 'wife.' An orange cowrie (*Cypraea aurantium*) in the Ridgeway Collection of currency in the University Museum of Archaeology and Ethnology, Cambridge, was labelled as follows by Sir William Ridgeway: "It was worth many whales' teeth, the regular currency, but it is hard to say if these cowries were actually currency, though they were occasionally so used. A chief told von Hügel that in the old days one of these cowries would buy a girl, from which it seems as if they were used as the highest barter unit for the most valuable objects."

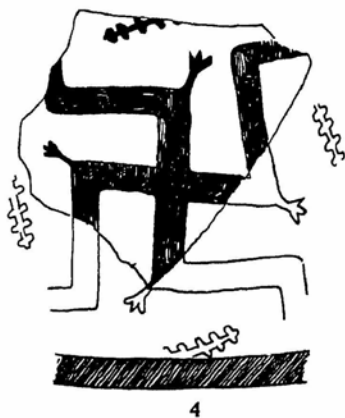
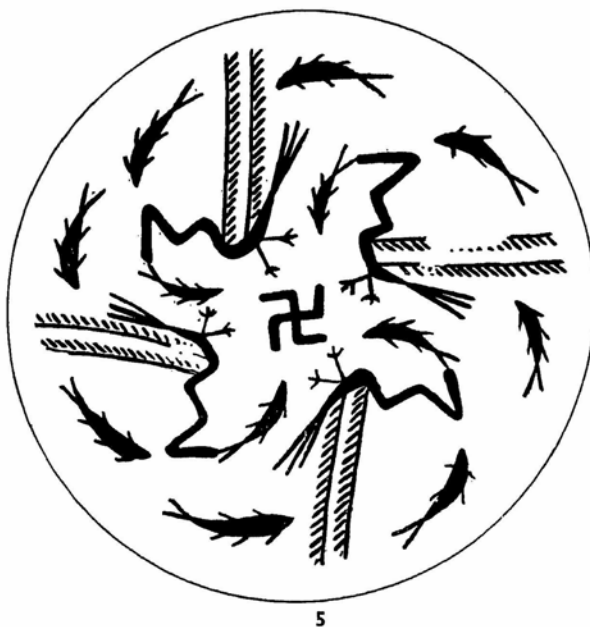
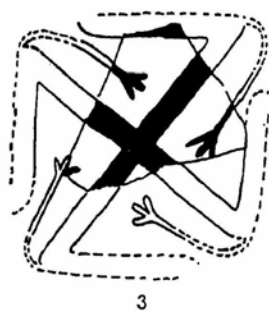
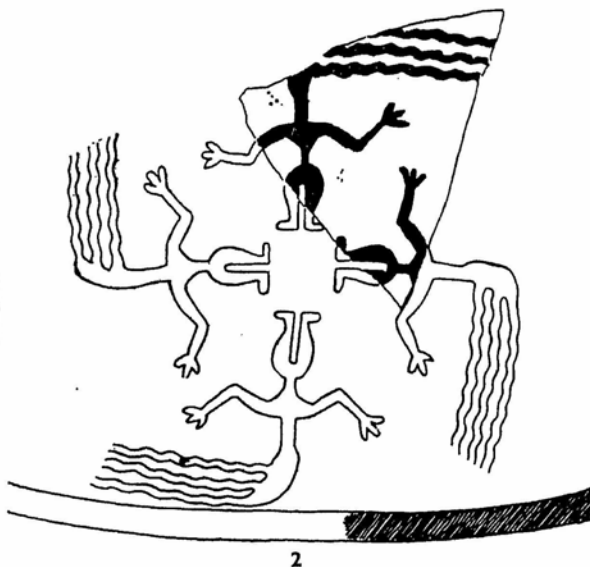
(2) In ancient Egypt the cowrie was a charm representing an eye.

Probably both beliefs are confused and mingled in many other parts of the world.

Coming to our own country in primitive times, I have excavated three cowrie shells (*Cypraea pantherina*) from Anglo-Saxon graves, and can vouch for the fact that in each case they were with female burials. One of them accompanied the skeleton of a newly-born child. With other female skeletons beads made from small pieces of the toothed rim of the cowrie shell were worn as part of a necklace. In our own country, then, it is reasonable to suppose that cowries were worn, as Dr. Murray maintains, as representatives of an eye to ward off the Evil Eye. Anyhow, no Anglo-Saxon thinks or thought in terms of 'life-giving surrogates' whatever they may be.

Cambridge.

T. C. LETHBRIDGE.



SWASTIKA DESIGNS ON PAINTED POTTERY FROM SUSA AND SAMARRA.

MAN

A RECORD OF ANTHROPOLOGICAL SCIENCE

PUBLISHED UNDER THE DIRECTION OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

XLI, 38-57

MAY-JUNE 1941

ORIGINAL ARTICLES.

With Plate C.

THE SWASTIKA ; ITS HISTORY AND MEANING. *By John, Prince Loewenstein, D.Phil. Illustrated.*

38 The remarkable discoveries of archæological research during recent decades, which have revolutionized our knowledge, in particular of the civilizations of the Ancient Orient and India, throw new light on the problem of the origin and meaning of the 'swastika.'

It was known to older research that already in prehistoric times the *swastika* was present in wide areas of the old world and of the new, but there were no indications which could lead to the determining of any particular place of origin. The American continents cannot be considered as centres of origin, for the sign makes its appearance there later than in Eurasia, and there is much that points to the conclusion that it reached the New World from Asia. With regard to Eurasia it can be stated today that the chief distribution of the *swastika* lies along a central zone ; that is to say, in the area where owing to the favourable climate the earliest agricultural civilizations were evolved.

The oldest *swastika*-like patterns known to me are from objects made of mammoth-ivory which were found in the village of Mezine in Southern Russia. They belong to the culture of the Ice Age,



FIG. 1. BRACELET OF MAMMOTH IVORY WITH SWASTIKA ORNAMENT: FROM MEZINE IN SOUTH RUSSIA.
[For detailed description of illustrations see note at the end of the article.]

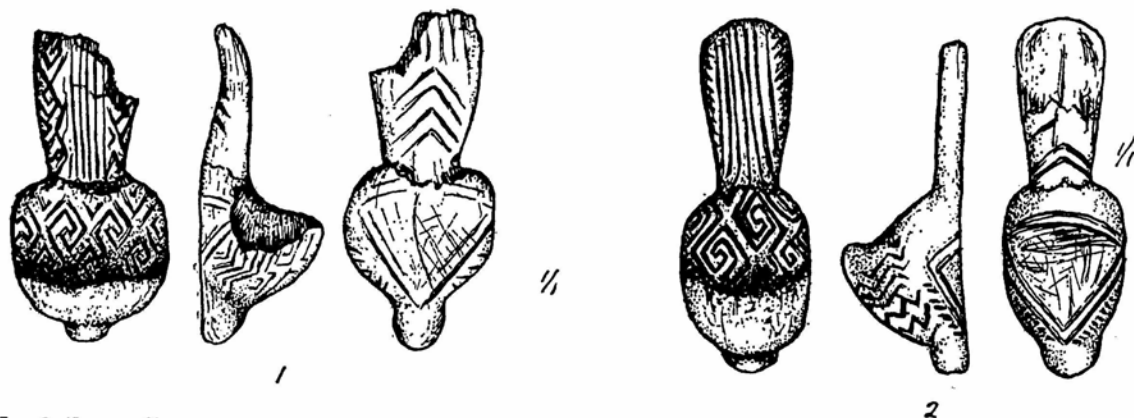


FIG. 2 (1 AND 2). FEMALE IDOLS OF MAMMOTH IVORY, WITH SWASTIKA ORNAMENTS FROM MEZINE IN SOUTH RUSSIA.

that is to say they are about 20,000 years old. In particular I should like to draw attention to a bracelet (Fig. 1) and various female idols (Fig. 2. 1-2). All these works of art, which can be reckoned to the earliest known products of human activity, are covered with geometrical ornaments, amongst which the *swastika*-like patterns are particularly striking. About 4000 B.C. the *swastika* appears for the first time in the cultures of the Near East, in Samarra and Susa. Here it is always to be found associated with certain symbolic representations which throw some light on its original meaning. In Samarra, for example, we find four female figures composing a *swastika* (Pl. C. 1-2) and the sign appears in a similar form about 3200 B.C. on a seal from Ur. It is found in Troy about 3000 B.C. on female face-urns—most significantly on the vulva (Fig. 7A). Female idols bearing the *swastika* also occur in Cyprus, Greece, and other South-east European countries (Fig. 7B, c). This association 'Woman-Swastika,' already present in the Ice Age culture of Mezine, is still common among certain negro tribes in Central Africa, where women use this obviously magic sign as a tattoo-pattern. It is noteworthy, too, that even objects in any way connected with woman, e.g., the bracelet from Mezine (Fig. 1), or spinning-whorls and loom-weights from Troy (Fig. 5) are often decorated with the *swastika*. There must be a special meaning in this. It is generally accepted to-day that the oldest art produced by mankind was not decorative but had a magic content. Woman was one of the oldest and most popular themes for artistic depiction. There can be no doubt that she symbolized the idea of fecundity. Approximately a hundred so-called 'Venus-representa-

tions' have been preserved, belonging to the Older Stone Age. They are small statuettes of women, naked, with clearly emphasized sex, of which a number represent abnormally fat, obviously pregnant, women. (Cf. *Illustrated London News*, Vol. 194, No. 5214, pp. 467-469.) Numerous such female idols are known to us to-day, dating from the Younger Stone Age and these were certainly images of 'mother' deities.

The *swastika*, which from the earliest times was so closely associated with woman, must, like the female figures themselves, have been a *fecundity symbol*. The female face-urns from Troy, which bear the sign on the vulva, support this view in particular (Fig. 7A). On the sepulchral pottery of Samarra, the *swastika* is often associated with certain animals, for instance the fish, which, owing to its great power of reproduction, is already known to have been a fecundity symbol for primitive man. It is to be found, (Fig. 3, for instance), on phallus-representations dating from the Older Stone Age, or associated with animals with obvious reference to the sexual organs (Fig. 4). The same meaning applied to certain other animals such as the snake, the toad, and the lizard, which are also to be found together with the *swastika* on sepulchral pottery from Susa and Samarra.

Fecundity-magic and the death-cult are intimately connected from earliest times. Neanderthal man, some fifty or hundred thousand years ago, already made a practice of painting the body with red ochre after burial. The same custom is found again later, in the third millennium B.C. in the so-called 'Ochre Grave Culture' in Southern Russia, where hundreds of graves have

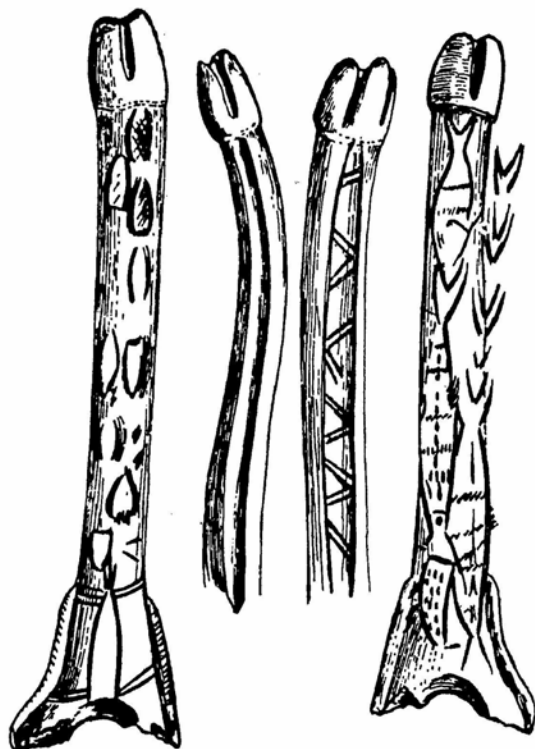


FIG. 3. PALÆOLITHIC PHALLI, ONE ENGRAVED WITH FISHES: FROM BRUNIQUEL

been discovered in which the bodies were all painted with red ochre. Red ochre has the colour of blood and therefore of life. Female idols too were painted with red ochre; an example of this is the so-called 'Venus of Willendorf,' a well-known little clay statuette found in the Austrian village of Willendorf whose age is roughly 30,000 years. Both in Southern Europe and in

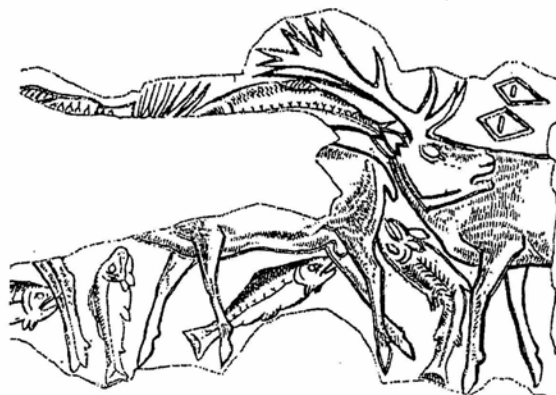


FIG. 4. PALÆOLITHIC REPRESENTATION OF DEER AND FISHES: HORTET CAVE

the Orient, female idols are often found in graves. Such 'life-bringing' signs in the death-cult prove that the belief in a re-birth after death is as old as mankind itself.

In Samarra and Susa the *swastika* appears exclusively on *funerary* pottery. It obviously has the same meaning here as the female idols in the graves. The Swedish scholar J. G. Andersson noticed in the Chinese province of Kansu certain ornaments, which were confined exclusively to funerary pottery, and which he therefore called the 'Death Pattern.' Of these patterns, which also occur on the funerary pottery of Samarra, particular mention must be made of the triangle and the fret-pattern. The former has recently been compared to the delta on the female idols, often well-emphasized and interpreted as a fecundity symbol (Fig. 2). Numerous examples show that the *swastika* played an important role in the death-cult. Thus it appears on idols from Boeotian graves, (Fig. 7 B. C.) or is included in a funeral representation on an Attic vase (Fig. 11),

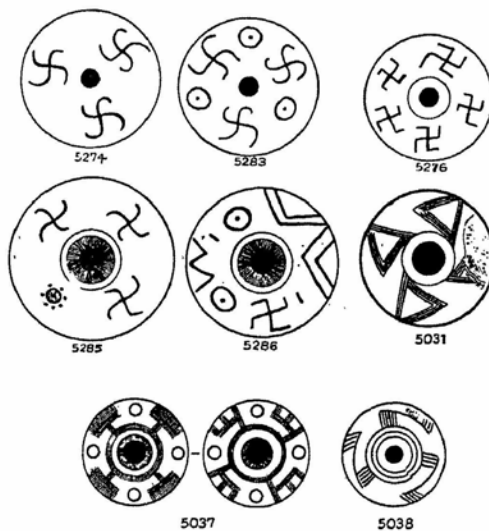


FIG. 5. SPINNING-WHORLS FROM TROY, WITH SWASTIKA ORNAMENTS.

or connected with two snakes on the lid of a clay chest from Thebes (Fig. 8). Later it is often seen on tomb-stones and weapons, where it must doubtless be interpreted as a 'death symbol' (Fig. 10).

The meanings attributed to the *swastika* can all be explained as part of the Mesopotamian ideology, where the fecundity cult makes its earliest known appearance. But Mesopotamia

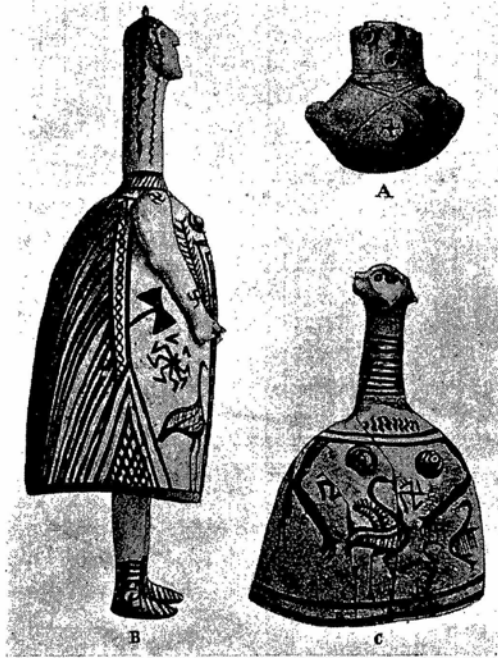


FIG. 7.—THE SWASTIKA AND WOMAN: A. TROJAN FACE-URN B. C. BOEOTIAN CLAY FIGURES WITH A SWASTIKA ORNAMENT.

was only the centre of a far larger cultural circle which could be termed the 'Southern or Matri-archal Cultural Circle' and which covered a vast area. It extended from the Near East in a north-westerly direction as far as Central Europe, including the southern portion of modern Poland and the Ukraine. In Asia it finds its continuation in the Trans-Caspian area and the Indus Valley, and even reached as far east as China, where we find it in the provinces of Kansu and Honan, and in Japan in the area round Tokio in the Neolithic stations of the Ainu culture. We are ignorant to-day of the manner in which it was possible, at such an early period, for a common culture to be evolved over so vast an area. Probably it was through trade and migration that the peoples of these areas came into contact with one another. In the Near East and in Europe everything points to the fact that the movement took place from the south to the north-west, but in Asia proper we have no means of determining the centralized point of origin, for vast tracts are still unexplored today and there has been comparatively little archaeological research in these regions. *The important thing is to establish that the swastika occurs in all the groups of this 'southern circle'*

whilst it was originally quite unknown outside the boundaries of the geographical area indicated above. The chief common feature of the great 'southern circle' is the occurrence of female idols, for the most part made of clay. They are present in large numbers in each of the areas described above. Like the swastika they are nowhere to be found outside this area. In Northern Europe sculpture is entirely lacking in the Younger Stone Age, thus placing it in striking contrast to the agricultural civilization stretching south and south-east of it, where sculpture was widely disseminated. The idol-region extends as far as Moravia, Bohemia, and Central Germany, but in these latter countries the idols are very scarce. It has recently been shown that their appearance grows more frequent in South-eastern Europe and that their artistic quality, too, improves in the south-east. The most primitive are in Moravia, Bohemia, and the adjoining areas. Here there is either no face at all, or else eyes and nose are



FIG. 8.—THE SWASTIKA AND THE DEATH-CULT: PAINTED CLAY CHEST FROM THEBES: VII CENT. B.C.



FIG. 9.—THE SWASTIKA AND WOMAN: PAINTED AMPHORA FROM BOESTIA; VII CENT. B.C.

given in bare outline. The arms are indicated by short stumps, and the legs are not separated, but the division merely marked by an incised line. As we proceed south-eastwards the figures become progressively more varied and more artistic. Some of them are painted, and the idols represented sitting as well as standing. Everything points to the fact that the centre of origin of these female statuettes must be sought in the area round the Eastern Mediterranean and the Persian Gulf, where numerous examples are to be found everywhere. Here they go back as far as the beginning of the fourth millennium B.C., whereas the oldest in Europe do not go back

farther than the third millennium. The same is true of the *swastika*. Like the female idols the *swastika* is also to be found in the extreme east of our 'Matriarchal Culture,' namely, in Japan. In Babylonia the 'mother' deity, the worship of whom is testified by so many idols, went by the name of Ishtar. She was at the same time also a lunar deity, and this is not surprising, seeing that the moon plays an important part in every agricultural civilization. The *swastika*, too, must have been a lunar symbol. Thus we find it in Susa about 4000 B.C. above the head of a dog—the latter is regarded as a lunar symbol in ancient folklore (Pl. C. 8). On a Boeotian amphora of the seventh century B.C. it appears as one of the attributes of a fecundity-goddess together with that well-known lunar symbol, the bull's head, thus giving the female main figure the character of a lunar deity (Fig. 9).

Looking at the representations from Susa and Samarra we are struck by the number three. The fish have three fins, the birds with snake-like necks have three toes and three feathers in their tails (Pl. C. 5). The long flowing hair of the female demon forming the *swastika* is also composed of three strands and the hands of the deities have three fingers (Pl. C. 1, 2). Clearly this has a special meaning. As a matter of fact the number three plays a very important part in lunar mythology and the hand with three fingers is regarded as a symbol of the moon. In Samarra and Susa the *swastika* is also present in a geometrical form, but often the remnants of the three-fingered hands

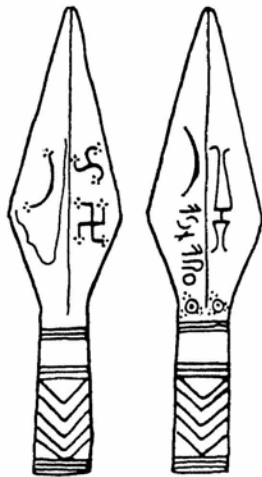


FIG. 10.—THE SWASTIKA AND THE DEATH-CULT: IRON SPEARHEAD FROM BRANDENBURG.



FIG. 11.—THE SWASTIKA AND THE DEATH-CULT: PAINTED VASE FROM ATTICA; VIII CENT. B.C.

are visible in appendages (Pl. C. 3, 4). In Susa the sign is also composed of three bundles (Pl. C. 6, 7) and it occurs in a similar form in Transylvania. Nor is it mere chance that three *swastikas* occur on numerous spinning-whorls from Troy (Fig. 5). The lunar symbolism of the sign is still present thousands of years later, for example, on a spear head from Brandenburg, where it appears next to the half-moon and furthermore associated with the number three. The three-fingered hand has now become three dots (Fig. 10).

We are not yet in a position to-day to say with any certainty which particular place within the area of the great 'Southern Cultural Circle' described above must be regarded as the centre of origin of the *swastika*. But everything points to the Near East as being the probable centre. It was from here that agriculture penetrated into South-eastern Europe during the Younger Stone Age. This form of culture was transmitted up the Danube and there developed into the so-called

'Danubian Culture.' It was within this culture that the *swastika* first made its appearance in Europe proper, about the middle of the Third Millennium B.C. In Northern Europe the sign does not appear at all until the Bronze Age, after the Nordic peoples had come in contact with the Danubian peasants, and had learnt agriculture from them.

Ignorant of the archaeological data at our disposal to-day, older archaeological research often connected the *swastika* with the 'Aryans,' and accordingly interpreted it as a 'solar symbol.' In Germany recently a number of scholars such as Joerg Lechler, A. v. Scheltema, and E. Unger, have tried to reinstate this old view. For this purpose they assume that the neolithic monuments of South-eastern Europe are older than the finds in the Near East, and that the people of the 'Danubian Culture' were of Indogermanic stock. Both these assumptions have been proved wrong by the discoveries made during recent years.

DESCRIPTION OF THE FIGURES.

- FIG. 1 (A, B, C).—Bracelet of mammoth ivory, from the prehistoric site of Mezine in South Russia; covered with geometrical ornaments, among which the *swastika*-like patterns are particularly striking. After Golomshtok, (K.E.A.) *Trans. Amer. Philos. Soc.*: N.S. XXIX, 2. (Philadelphia, 1938), p. 350, fig. 59 (2-3).
- FIG. 2 (1, 2).—Two female idols of mammoth ivory (three views of each) originally interpreted as 'bird-representations.' The well-pronounced and otherwise inexplicable 'pubic triangle' however supports the view that they are female idols. After Rudinsky, (M) and Golomshtok (K.E.A.), *l.c.* p. 352, fig. 60 (1, 2).
- FIG. 3 (1-4).—Palaeolithic Phalli (four examples): on 4 are engraved representations of fishes: from

Bruniquel. After Breuil (H) and Saint Perier (Réné de), 'Les poissons, les batrachiens, et les reptiles dans l'art quaternaire.' *Archives de l'Inst. de Paléontologie humaine*: (Paris, 1927), Mémoire 2, p. 47, fig. 17.

FIG. 4.—Engraved representation of deer and fishes, from Lortet Cave, S. of France. After Hoernes (M). *Urgeschichte der bildende Kunst in Europa*, (Wien, 1925), p. 158, fig. 3.

FIG. 5.—Spinning whorls from Troy (Hissarlik, Asia Minor) engraved with *swastika* ornaments. After Schmidt (Hubert), *Heinrich Schliemann's Sammlung Trojanischer Altertümer*. (Berlin, 1902), Taf V, 5031, 5037-8; VIII, 5274, 5283, 5285-6, 5276.

FIG. 6 [=Plate C] 1-8).—*Swastika* designs on painted pottery from Susa and Samarra.

- 1, 2.—From Samarra: fragments of vessels in yellowish clay with dark brown painting: four female demons form a swastika pattern. After Herzfeld (Ernst), *Die vorgeschichtlichen Topfsereien von Samarra* (in die Ausgrabungen von Samarra. V. Berlin, 1930), pp. 1-12, fig. 1 (1), 2 (2).
- 3, 4.—From Samarra: similar fragments on which the swastika has three-fingered appendages. After Herzfeld (*l.c.*), p. 17, fig. 13 (13); p. 16, fig. 12 (12).
- 5.—From Samarra: fully preserved vessel, of greenish pottery with violet-brown painting. The swastika in the centre is surrounded with various kinds of animals. After Herzfeld (*l.c.*), p. 13, fig. 13 (13).
- 6-7.—From Susa: clay vessel, painted with two swastikas: (Louvre). (6) After de Morgan (Jacques). *Le Préhistoire Oriental*. (Paris, 1925-27), vol. 2, p. 266: (7) after Bossert (H. Th.), *Ornament* (London, 1924), vol. XI, 7.
- 8.—From Susa: fragment of a vessel with swastika over the head of a dog. After de Morgan.
- FIG. 7 (A, B, C).—*The Swastika and Woman* (cf. fig. 9):—
A.—Female face-urn from Troy. After Hoernes (*l.c.*), p. 361, fig. 5.
B, C.—Female idols of clay from Boeotian graves: VII cent. B.C. (Louvre). After Hoernes (*l.c.*), p. 65, figs. 2 and 3.
- FIG. 8.—*The Swastika in the Death-cult*: associated with two snakes on a painted clay chest from Thebes in Boeotia: VII cent. B.C. After Bossert (*l.c.*), Pl. VI, 4.
- FIG. 9.—*The Swastika and Woman* (cf. fig. 7): scene from a painted Boeotian amphora: VII cent. B.C. (National Museum, Athens). The female figure is characterized by the fish as fecundity-goddess. Among the symbols surrounding her, the swastika, and the bull's head with crescent-moon horns, are noteworthy. After Zervos (Christos), *L'Art en Grèce*. Paris. 1936. Pl. 53: also Hoernes (*l.c.*), p. 65, fig. 5.
- FIG. 10.—*The Swastika in the Death-cult* (cf. fig. 8): Iron spearhead inlaid with silver, bearing runes, the swastika, and the moon, found at Dahmsdorf in Brandenburg, Germany; of the earlier phase of the Roman period. After Mannus, *Zeitschrift für Vorgeschichte*. (Berlin, 1936), vol. 28, p. 88.
- FIG. 11.—Burial scene on a painted vase from Attica, VIII cent. B.C. (National Museum, Athens). Note the three swastikas above and near to the head of the deceased person. After Zervos (*l.c.*), Pl. 43.

DREAMS OF INDIAN ABORIGINAL LEPEBS, By Verrier Elwin, *Bhumijam Seva Mandal Gorakpur, Mandla District, India.*

39 For the past three years I have been collecting the dreams of the patients in the small Leper Refuge at Sanhrwachhappar in the Mandla District of the Central Provinces, India. Among them are Raj-Gonds, Gonds, Bharias, Bhumia-Baigas, a Kol and a Bhil, a wide representation of aboriginals. In the Refuge each leper has his own house and continues to observe the laws and customs of his tribe.

They do not seem to dream very often, and do not remember their dreams readily, but those recorded here will give some idea of the mental conflicts set up by leprosy.

It is necessary first to examine the leper's own ideas about the cause of their disease.

Causes of Leprosy.—Hindus generally regard leprosy as a punishment for sin, a view shared by some of the aboriginal tribes. Thus it was the sacrilege of Vasuki, king of serpents, that brought leprosy to the Punjab.¹ Those who told lies in the Bhadanwāra grove at Madura became lepers.² Sometimes it is a punishment for an offence against the sun.³ In a Baiga folk-tale, leprosy appears as the penalty for incest. The Kharias call it *machhi patak*, or 'fly-sin,' and

have to atone for it by a tribal dinner.⁴ The Rengma Nagas, on the other hand, attributed leprosy to maggots. When they cremate the body of a leper, they hold burning brands for fear 'the mother of the maggots should fly out and attack one of them.'⁵

Most of the lepers at Sanhrwachhappar, however, attribute their disease to witchcraft. It is possible, of course, that this is not their real belief, and that they really think it is a punishment for sin, and diagnose witchcraft to preserve their prestige. But in most cases the witch is at least the infective agent.

No cure is known. But Narayan (a Gond) believes that if a man can go to a virgin girl, his leprosy will pass to her and he will be free of it.

Baisakiya (a Bhumia-Baigin) has been a leper for many years. When she was young and pretty, she had an affair with her brother's son. 'His wife was a witch. There was leprosy in their village. She brought the disease from there and put it in a ball of mud. She told a friend to throw it at me when I was plastering mud on the wall of my house. The friend thought it was a joke and threw it. It struck me on the

¹ Crooke: *Popular Religion and Folk-lore of Northern India*, 1896. Vol. II, 137.

² *Ibid.*, II, 91.

³ Forbes: *Ras Mala*, 1924, i, 59.

⁴ S. C. Roy: *The Kharias*, 186.

⁵ Mills: *The Rengma Nagas*, 118.

'face. My cheeks swelled up and the leprosy began.'

Danwa the Gond also contracted leprosy as a result of an amorous indiscretion. 'I was in love with a girl. Her elder sister was a leper, her mother was a witch. The mother was angry and said, "I'll see you." Then in a dream (1) the mother came to me and lay with me. I took her and awoke. The next day I found I had gonorrhœa, and the day after I saw on my body the patches of leprosy.'

When Phagu the Gond consulted his *gunia* about the origin of his leprosy, the magician told him that he had clearly earned the hostility of a very powerful witch, and the disease would never be cured.

When Buddhu the Gond was twenty years old, a witch in her period threw water over his feet, and in a few days leprosy sores appeared.

Manglu (a Raj Gond) took a new wife when he was about twenty-five, and a witch quarrelled with him and sent the leprosy-magic to him in a chicken. The *gunia* declared the disease to be incurable.

One of Narayan's many lovers was a witch. When he deserted her, she put the leprosy-magic in some ashes and blew them at him.

Changnu and Nandlal (Gonds), however, trace their disease to the hostility of these terrible beings, the *Mata*, the 'Mothers' of disease so feared throughout India. It was Mata Bhavani who attacked Changnu at his plough and left him on the ground senseless and a leper; it was Pandani Mata who attacked Nandlal. Nandlal's great-great-grandfather had been a Government vaccinator, but had resigned his post after some years. It was as a punishment for this that Pandani Mata now attacked Nandlal.

Makundi, the Raj-Gond *gunia* (magician), has lived a life so full of dreams and magic that it is not easy to discover exactly where his leprosy began. But on the whole he is inclined to trace it to some error or malice during a Jawara ceremony. 'The god rode upon me; I was out of my wits. I picked up the glowing embers of a fire, and threw them all over my body. I was badly burnt, and soon I had patches on my skin, and pins-and-needles in my feet.'

In only one case is leprosy traced to a breach of the moral law. When Sonwa the Kol was eighteen, his wife ran away. 'I went to fetch her back. I was full of longing. There was a

'mare in the road. I went to her. The next day, patches and sores covered my body and my nose began to rot away.'

One other leper, a Gond, declares that he got the disease in a dream when an evil spirit (*bhut*) attacked him.

Conflict due to Leprosy.—It is evident, therefore, that lepers may suffer from many kinds of conflict. There is shame at the reflection that the disease may be due to some tribal crime, committed perhaps in ignorance. There is fear, of this mysterious disease, which the *gunia* declares is 'for life' and cannot be cured. There is a feeling of impotent rage against the witch or evil spirit who has caused it. There is antagonism against the society which shuns the leper. There is a sense of sexual frustration, for the majority of wives forsake a leprous husband, and few girls will look at a leprous lover. These aborigines, however, are proud and dignified. They repress their conflicts as far as possible, banish them, and hide them away. But the effect persists. Dr. Lincoln has pointed out that 'two definite types of primitive dream-interpretation occur in different parts of the world, one which treats the manifest content directly without seeking latent meanings, as among the extinct Huron and the Navaho, and one which rejects the manifest content and seeks latent meanings and meanings of symbols through association, as among the Ashanti and the Naga. It is curious that these two methods roughly correspond to Jungian and Freudian methods respectively.' Lincoln, *The Dream in Primitive Cultures*, p. 40.

Among these lepers both types of interpretation occur. Sometimes, leprosy appears quite simply as part of the manifest content of their dreams, and no deeper meaning is sought. Sometimes, however, the disease appears in a disguised form, symbolized as an animal, an evil mythological being, a ball of fire, or a nightmare experience. When they have a dream of this kind, the lepers reject the manifest content and seek for the latent meaning, sometimes through the symbols common to the whole tribe, sometimes through their personal associations.

Leprosy in Dreams.—I will first give some dreams in which leprosy forms the manifest content. The following illustrate the social ostracism which the leper has to bear:

2. "I went to Amarkantak (the sacred source of the "Narbada). There I met a Brahmin. I put all

"my possessions in a house. The Brahmin said, 'You are a leper. You must give me money for this house.' I opened my bag and looked for money. But it was empty. There was only a handful of rice and a coconut. I gave him these, but he threw them into the river, and turned me out of the house."

3. "I went to the river to kill fish. I killed many. I was carrying them home. On the way I met a *sadhu*. I asked him, 'What is this disease? What witch, what spirit sent it?' The *sadhu* said, 'I'll soon make you well.' But I ran away to a field where a man was grazing cattle. He came to beat me. I hid in a house."

Manglu interprets this dream: 'Fish are always bad, they mean witches. People and animals often chase me in my dreams—they are this disease. The house is the hospital where everyone is good to me.' The man grazing cattle is thus the society which rejects the leper, the house is the Leper Refuge which accepts him.

In other dreams the social conflict is combined with a manifest or latent sexual conflict.

4. "A girl came to me and said, 'For four years I have been desiring you.' I said, 'Don't come to me, I am a leper. If you must come, then first of all make me well.' But she said, 'No, it is you I want.' Then in both my hands I found the round small *pakri* fruit. It was then that I began to have pain in my fingers and they became bent."

5. "A man said, 'I won't go to your house; you are a leper.' I said, 'Certainly don't come, and I won't go to yours.' We quarrelled. He climbed on me. I ran away and hid in the house."

The progress of the disease is sometimes marked by dreams. A Gond saw (6) 'worms attacking his swollen hands and feet. He picked them out with a twig.' Sonwa lost his voice after a spirit (*bhut*) had caught him by the throat in a dream (7).

Leprosy Symbolized in Dreams.—I pass now to another type of dream in which the leprosy-conflict is repressed and the latent thoughts appear in disguised symbolic form. The lepers themselves recognize leprosy-symbols in mythological monsters, wild animals, fire, and the experience of falling into water or a pit.

Baisakiya dreams of the witch who gave her leprosy. (8) 'I was living on the bank of a river and feeding my child. Then I found a big fish in my lap, and I awoke.' The big fish, as always, is the witch. Its appearance in the lap instead of by the cheek may be an example of displacement.

The following dreams of demons may represent either the fear of leprosy or dread of the witch who sent it.

9. Narayan connects the onset of his disease with a dream of 'an ogre (*dano*) with a great tooth, which

'caught me by the throat, so that I was unable to breathe.'

10. For three years Makundi has had this dream: 'A huge jungle pig, the *akla*, stood before me. It glared at me, then ran away.'

11. In the fourth year, the dream changed. 'The pig attacked me violently, and tried to kill me. I defended myself with a stone, and at last the pig ran away.'

12. Buddhu dreamt that 'a girl came to me. She was naked as a cow. Her arm was broken. She had a phallus, and on either side of it a huge tooth. She tried to bite me. I climbed a tree, but fell heavily.'

The phallic nature of these demons is apparent.⁶ The woman with a phallus is probably the *churelin* (ghost of a pregnant woman) in novel guise.

To the lepers, wild animals represent leprosy. This is not the general interpretation among their neighbours. The Baigas, for example, regard the tiger as symbolizing the Forest Officer who is lord of the jungle, the bear is the policeman, the crocodile is the money-lender.⁷ But in the following dreams animals symbolize disease:

13. "There were elephants, camels, and horses stretched for a mile along the road. The camels attacked me. The camels are leprosy."

14. "A tiger broke the wall of my house. It put in its paw and scratched me. I was terrified. I made myself very small and lay in a corner."

15. "A tiger in the shape of a cat caught me by the throat."

Manglu has dreams (16) of being pursued by tigers, dogs and buffaloes; these dreams always end in his falling into a hole or pit. He associates these nightmares with leprosy. Budder, who has spent years wandering by the banks of rivers, has similar dreams (17) connected with crocodiles.

Nandlal's dreams go by contraries. (18) 'I caught hold of a horse to mount it. I put a rope round its neck. But it bolted. This dream meant that the leprosy would get worse. As I wanted to mount the horse, so the leprosy wanted to mount me'. On the other hand, when he dreamt (19) that his hands and feet were greatly swollen, he took it to mean that he would get better.

The symbol of fire is also associated with leprosy, perhaps because the marks of a burn are not unlike leprosy patches.

20. A fire went blazing before me. That fire is the disease which burnt all my joints."

21. "Something blazing like fire came towards me. It was round and burning, a ball of burning. I ran away for fear. It followed me. I climbed a tamarind tree. I went hiding from branch to branch. But the fire followed me. Then I looked behind me and saw that the flame was less and smoke had begun. I jumped down and was running away when I awoke." (Makundi, too,

⁶ Compare Roheim, *The Riddle of the Sphinx*, 41.

⁷ See my article, *A Note on the Theory and Symbolism of Dreams among the Baiga in The British Journal of Medical Psychology*, Vol. XVI, 250.

believes that his leprosy began after he got burnt at the Jawara ceremony.)

The two next dreams are possibly connected with the shooting pains of leprosy. The 'nag-phani' plant is *Opuntia dillenii*, a plant with woolly irritant hairs and long sharp thorns.

22. "Every week since I became a leper I have seen this dream. I am vomiting. A thorn of the 'nagphani' plant falls from my mouth. Many thorns fall. I go for water to wash my mouth, then all over my body there are thorns sticking into me. I pull them out and go home. There my leprous 'mama' (maternal uncle) asks, 'Do you want water or food?'"

23. "Two women came with knives. They caught me and said they were going to cut me up. I awoke so terrified that I got fever."

Since he got leprosy, Narayan often dreams (24) that all his hair is falling from his head, and he connects this dream with the disease.

The lepers are specially subject to dreams of falling. These are not the ordinary dreams of climbing and then falling from a height (which probably symbolize erection and detumescence), but are dreams of falling into pits or water. They are regarded as bad dreams and are vaguely associated with leprosy. The reason why these dreams are bad may be that mourners always go down to the river at a funeral or because the most unpleasant part of the readmission ceremony for the excommunicated takes place in the river bed. The excommunicated person stands in the river and says, "I have fallen into a pit; who will take me out?" His head is shaved, and he is pelted with cow-dung.

25. "I was going along the road and fell into a deep pit."

26. "I was climbing a big hill. I reached the top. There were two men ploughing. I threw them down the hill, and ran away for fear. Wherever I went there were pits. At last I fell in one of them. I got out and found many people sitting round a big official. He called me and made me sit on a chair. I looked under it and there was a great pit. Everybody ran away and I fell in."

27. "I went to find my bullocks. I met two Chamars with silk turbans. I asked them if they had seen my bullocks. Then I fell into a deep hole."

28. "I fell into the river and was carried away in the flood. A man threw a rope and pulled me out."

29. "I went into the river, and when I got to the middle I woke trembling with fright."

30. "I was trying to cross a flooded river, but I fell in. There was a man on the opposite bank, and I reached him with great difficulty."

Compensatory and Sexual Dreams.—A few dreams may be classed as compensatory, or simple wish-fulfilments. These seem to refer either to being welcomed back into society or to a revival of sexual enjoyment. In both cases the dreams

compensate for the lepers' loneliness and isolation.

31. "My brother embraced me saying, 'May you always live happily with us'."

32. "I went alone back to my own country and lived there. Everyone came to see me, and asked me where I had been. Only my father slapped me."

33. "I went to my field to sow rice. A man came and caught me in his arms to greet me. As we embraced he picked me up and carried me off."

In comparison with healthy Gonds, Baigas and Patharis the lepers seem to have very few sexual dreams. I have found no incestuous dreams and none of the *Vagina dentata* dreams that are common in the neighbourhood.

This is remarkable, for only two of the lepers are leading a normal sexual life, and it is generally said that leprosy results in a heightening of sexual desire. All the lepers have, however, enjoyed many erotic adventures in youth. But most of them declare that since they contracted the disease, girls have fled from them. 'I have never been in love,' says Nandlal. 'Who would look at a sick man?'

Under these conditions one would expect many dreams of a sexual character, but the lepers agree in saying that since their disease began, their erotic dreams have greatly decreased. 'I have had no dreams about girls,' says Narayan, 'since I became a leper. Before that I often used to visit girls in my sleep and our clothes would get torn.' And Nandlal says that he often used to go to girls in his dreams, but never now. This probably means that opportunities for intercourse being few, the desire for it has been repressed and appears in dreams in a form so disguised that the lepers do not recognize it. The reader will easily notice evidence of this in the dreams recorded in this article.

But where the manifest content of the dream is sexual, it is usually compensatory. Contrary to the usual experience in dreams, contrary also to universal tribal custom, it is the girl who takes the initiative and comes to seduce the leper. The leper becomes once again the handsome, charming gallant of his youth. Women pursue him; he is the passive victim of their devotion.

But among ordinary people, if a girl approaches a man without being summoned by magic, it is assumed that she is the dangerous, perhaps fatal, *churelin*. Men hang charms over their doors, and scatter parched rice round their beds to keep these menacing spirits from them. But you will

not find such charms above the lepers' doors. These are typical lepers' dreams :

34. "I went to graze cattle. A snake bit me. I went home. A girl caught me and climbed upon me."

35. "I was going along the road. There I met six or five women relieving themselves. I stood still. They all ran to make love to me and I cried out for fear."

36. "A woman came to me. She was very like my wife. I was asleep. She sat on my bed and made me get up. Then she ran away. I caught her and brought her back to my bed. She changed her form then. 'Where have you come from?' I asked. 'I have come for love of you,' she said."

37. "A man came to see me. He went into my stomach. He caught hold of my liver and shook it. I shouted and awoke."

38. "My second wife, who was long dead, came and slept with me."

From time to time there are regular epidemics of sexual dreams. There was one in 1936, another in 1939. These are usually connected with the activities of a *churelin* who comes to the neighbourhood and visits many men during her stay. In this part of India the *churelin* is not always regarded with dread; she often seems to play the part of a 'dream-maiden' whose visits are eagerly anticipated. In 1939 a *churelin* came to the Leper Refuge; she visited Narayan in the shape of one of his old lovers, Danwa in the shape of his sister, Sonwa, in her own form. Each dreamed of her on a different night, and enjoyed a full and romantic sexual experience. In each case the *churelin* took the lead. Danwa recognized that his dream-visitor was not really his sister, and thus no sense of guilt impaired the experience. There is no doubt that this curious 'epidemic' brought real comfort and happiness to the lepers.

Children's Dreams.—I will conclude with a few examples of the dreams of leper children. These, like children's dreams in other countries, tell a story of everyday life intermixed with fantasy. I quote from Ella Sharpe: *Dream Analysis*, 58f.

"Mrs. Klein (*The Psycho-Analysis of Children*) has pointed out how closely children's dreams resemble their play, and that in analysis children will act out elements that have appeared in their dreams. In play the child not only overcomes the painful reality, but is assisted in mastering its instinctual fears and internal dangers by projecting them into the outer world. . . . Freud has spoken of the dream as the guardian of sleep. One is lead to think that this dramatization in dreams is the subjective attempt within the *psyche* to project and master anxiety and control stimuli."

This process may be at work in the following dreams :

39. "We went to Amarkantak. We cooked our food, ate it and washed the pots on the river bank."

"The pots floated out into the river. I went out into the water to catch them. They floated down till they were caught against a log. Then my father came and took them out. I drank a lot of water."

40. "Father was sleeping in another house. I took a lamp and went to his house. I put it there and went out again. I was putting the chain on the door from the outside when a bear suddenly came. I screamed loudly. My maternal uncle was there. He said, 'It's only a dog, don't be frightened.' The bear came nearer. My uncle took me by the hand and pulled me into the house."

41. "Mohan and Sitaram (a friend and her brother) were playing marbles. A little Baiga girl spat there. Where she spat, a well was made. Now we had water near at hand and everyone bathed and drank. Then a man came and drew out water with a bucket. He slipped and fell in. We took all the water out so that we could see him, but a fish had swallowed him. Then a fisher-woman came and caught the fish. She took it to her house and cut it open. There was the man, but he was dead. We threw the man's body away, and cooked and ate the fish."

42. "I went to the shop to get some sugar. On the way back I met a huge snake in the path. So for fright I turned into a bird and flew up and sat on the roof of my maternal uncle's house. As I flew I saw a very large tree. The snake chased me. Then I flew from there and went home. I said to mother, 'You become a bird too'."

43. "I was going to Samnapur with two sisters who were carrying loads on their heads. Father was carrying his *cowar*. Mother was carrying the baby. Then my big brother came. He greeted us and we all went together to the bottom of the hill."

44. "I went with Munna (his little brother) to the channa-field. I put Munna to sleep by the river bank and I began to play. There was a lot of rain and the river was flooded. So I quickly picked up Munna and carried him away. I looked towards the river and my head went round and round. Just then a *sadhu* coughed. I was terrified. I thought it was a ghost. I called out, 'Who is that?' The *sadhu* called us to him, and he took us over the river. I went home and ate my supper. Then I woke up."

45. "I went with father to Amarkantak. A *panda* (magician) was there waiting to give medicine. In a room sat many policemen. I went and sat in the lap of the Rani of Amarkantak. A *sadhu* beat me for this, but the Rani stopped him. Then I climbed a wall with another boy, but I fell off. My father fell into the river and ran away. As I was falling I stuck half way down. Then I saw steps in the wall and climbed up by them."

46. "I got out of bed. I sat on a stack of *kodon*. Many men came by and played on their drums. They began to dance, and I awoke."

Dream Subjects.—The majority of the lepers' dreams reflect their every day life and their ordinary culture. The same thing has been found elsewhere, as by Miss Blackwood among the Solomon Islanders and by Dr. Lincoln among the American Indians. The complete absence of 'civilized' symbols and images is striking. The usual type-dreams occur among the lepers, though I have not recorded any instance of the

dream of raw meat or loss of teeth. Dreams of fish always mean witches and are very bad. Dreams about faeces are good, and mean that the dreamer will get money on the morrow. This is practically equivalent to the universal belief that the faeces-dream is prophetic of money. But Narayan declares that "if I eat faeces in a dream, it means that I am going to eat from the hands of someone of a lower caste, and I will be

"excommunicated"—there could not be a worse dream than that.

On the whole the lepers' dreams are solemn and ill-omened. That may be why they recollect them unwillingly and record them with hesitation. But the dreams reveal all too clearly the sense of social and sexual frustration, the constant dread, the mental conflict, which is not the least of the miseries of this terrible disease.

TRIDENT-GODS IN SAHARA AND WESTERN SUDAN. *By Sir H. Richmond Palmer, K.C.M.G.*
(Cf. MAN, 1940, 192.)

40 In his article (MAN, 1940, 192), Mr. G. A. Wainwright supports the contention of Mr. Ingrams (MAN, 1925, 86) that when a foreigner with a 'trident' (in a canoe) first arrived at Zanzibar, its form was derived ultimately from the 'trident' of the Greek god Poseidon. He adds that 'the Greek god must have reached Adulis and Zanzibar through some intermediary, the self-evident one being the Egypt of the Ptolemies, in which Greek influences were strong,' at least from the time of Ptolemy II, 283-245 B.C. He cites Cosmas Indicopleustes' copy of an Axumite inscription in A.D. 522 as evidence that before that date Zeus, Ares, and Poseidon were worshipped at Adulis. The Axumite names of the deities who most nearly corresponded to these Greek gods were, according to the inscriptions, Medr (Zeus), Mahre(m) (Ares) and Beher (Poseidon).

The first of these names, Medr, may be a variant of that of the Blemmy god Madulis or Mandulis who, according to the late Prof. Griffith,¹ came "from Puanit," or "from the East," and was, according to Dr. Blackman, a 'solar god.' Mahre(m) was the Axumite equivalent of the southern Arabian *mahri* ('warrior caste'); while Beher is the Arabic *bahr* (sea).

In the Sahara and Sudan west of the Nile, the regions which, towards A.D. 700, were overrun by a warrior caste of camel-men, who later founded the kingdom of Bornu, there is evidence that the cultural influences to which Mr. Wainwright alludes, coupled with those of Meroe and Aloa, were at one time also important.

About A.D. 871, according to Ya'aqubi, Kanem, then ruled by a Zaghawi monarch, whose title

was Karkar, was at enmity with another kingdom called Malal (or Balak)² further north in the Barku region. This testimony confirmed by the Bornu Muslim tradition (though of course apocryphal) makes the Caliphate shift from Baghdad to Bornu after the time of the Ummeyyad Caliph Omar II, A.D. 720. It may be supposed that Malal, or Balak as it was also called before that name assumed its modern form of Bargu or Borku, was the chief centre of Maghumi (Bornu) power from about A.D. 750 down to about A.D. 1150, when N'jimi became the capital. Writing about A.D. 1150, Edrisi narrates an expedition of the Sahib Balak to Samina in Fitri which he ravaged, the Sahib Balak being no doubt either the Mai, Mai Dunama Ummemi (A.D. 1098-1151) himself, or his local chief called Balak-ma.

It will be evident therefore that from at least A.D. 700 and probably before that date, the nomad camel-owning aristocracy who were known as Maghumi and later developed the Bornu Empire in the Sahara and Sudan, were in close contact with the Nilotic Sudan and its cultural influences. It is significant that Edrisi calls the

² El Bekri's (A.D. 1068) statement that 'there exists in Kanem a people descended from the Ummeyyads who fled there at the time their family was exposed to the persecutions of the Abbasids' (i.e., circa A.D. 750-800) is well explained if El Bekri, like the copyists of Ya'aqubi, did not understand what the name Umei meant in MSS. concerning the Sudan and Kanem, and so took it to refer to Ummeyyads. The name Malal connoted 'nobles' of Tuareg affinity, and Malal had a ruler whose name or title, corrupted to *Mai Useyi* in the MSS., should evidently read *Mai Umei*, *Umei* being the legendary deified ancestral name of the first *Mai* (king) of the Maghumi or royal caste of Bornu, before their pedigree was arabicised under court and Muslim influences after A.D. 1100, when Saif ibn Dthi Yazan of Yaman was adopted as their progenitor.

¹ *Journal of Egyptian Archaeology*, May 1929, p. 73.

Sahib Balak a vassal of the King of the Nobatae or Nubata.

Abu-l-'ala Al Maari, who wrote in A.D. 973, speaks of "Aramik (Barbars) who were rulers of the country (Kanem) of the Zaghawa" and whose slaves married Zaghawi women.

Al Muhallebi (A.D. 903-963) also, in mentioning the Zaghawa of Kanem, wrote "their religion is king-worship, since they believe that it is the kings who cause life and death, sickness and health. Their country lies south-east from the cities of the Balamain (Blemyes), and the Kasba of the land of Kawwar."

These notices from Arabic authors outside Africa lend strong support to the traditions and written records of Bornu itself,³ showing

(a) that by A.D. 871 the camel owning tribes of Tuareg affinity called Aramik by Ma'ari, and Balamain⁴ (Blemyes) by Al Muhallebi (in Bornu itself known as Maghumi and Kayi Koiyam or Kel Etti) had spread west from the Nilotic Sahara and Sudan through Ennedi and Borku to Kawwar and Damarghu.

(b) That by A.D. 1000 one of these tribes (Maghumi) had become dominant over the Zaghawa in Kanem.

The chronological gist of the statements (a) and (b) is in rough conformity with the Bornu King-lists, which as regards this semi-legendary period show:

No. in list	King	Date, reckoning back from recorded length of subsequent reigns	Burial place
VII	Biyoma	—	Fitri or Yo on the Kamadugu (Bornu).
VIII	Bulu	950 A.D.	Siggidin Oasis (Kawwar).
IX	Arkaman or Arki.	—	Zeila (Fezzan).
X	Shu	—	Damarghu.
XI	Jil	—	Damarghu.
XII	Umeyi	1085 A.D.	Egypt.

³ See Palmer, *The Bornu Sahara and Sudan*. Murray. 1937. Pp. 112 fn.

⁴ As late as A.D. 1350 Edrisi speaks of El Belium (Blemyes) in the deserts between Abyssinia and Syene (Aswan), so it is apparent that Al Hallebi's Balamain who lived to the north-west of the Kanem Zaghawa about A.D. 95 were by him classified with Edrisi's Belium, i.e., the Balhemu or Blemyes of the Roman era.

while the previous Maghumi migrations are indicated as follows in the King-lists:

No. in list	King	Date, reckoning back from recorded length of subsequent reigns	Burial place
I	Saif ibn Dthi Yazan.	—	Yamen.
II	Ibrahim ibn Saif.	—	Yamen.
III	Dugu ('grandson' of the first Mai 'Umeyi')	600-750 A.D.	Yeri Arbasan on the Shari.
IV	Fune	—	Malal (Balak) (N'galakaregion in Borku).
V	Arsu	850 A.D.	N'gala in Dikwa.
VI	Katuri	—	Fitri.

Some of the legends which are intertwined with this period are set out in my book *The Bornu Sahara and Sudan* (London: John Murray. 1936. Pp. 112-163). From these it appears that a Maghumi chief, setting off from Borku or Ennedi, about 700 A.D., tried to penetrate and settle in the Congo region, but failed. Then another 'veiled' chief (*Fune*) from Borku (called also *Mali Funiawan*, i.e., "the country or place of the 'veiled nobles'") made expeditions in the direction of Fitri and Dikwa. No. VI, Katuri, is said to have been the first Mai to conquer the Teda Gura'an in the Tibesti region, and it is noticeable that only after his time does a *Mai* die and be buried north or west of the Tibesti massif.

Katuri may be dated as living about the close of the ninth century A.D., when the line of the Maghumi advance or raiding from Borku was in general south-west through Kanem towards Fitri and Lake Chad. Even his successor Biyoma was more concerned with Bagharmi and Fitri than with regions further north, so that variant accounts give his burial place as Fitri, or alternatively Yo on the north-east shores of Lake Chad. The Maghumi it is evident were just one branch of the Aramik, or Balamain (Blemyes) like their cousins the Koyam (Kel Etti), or Kindin (Tuareg), who especially from about 641 A.D., the close of the Byzantine period, and even before (to some

extent), had been spreading west to the Central Sahara from the Nilotic Sahara and Sudan.

Among the Maghumi at N'jimi, their Kanem capital, and later at N'gazargamu, which was sacked by the Fulbe in 1806, a spear surmounted by a 'trident' was the mark of office borne by the higher *kokunawa* or office holders and was called *maman'n'gi*, which is explained to mean the attribute of the god (*aman*) of the water (*n'gi*). The Tamashek word for a fish is *aman*, and the Bornu king-ancestor name Umeyi, referred to above, seems to be merely a variant of Aman. The Tamashek (Tuareg) title for the head of a clan is Amanokel.

In the Catalan Atlas of 1375 A.D. Bornu itself is called the *Regnum Organa*, or kingdom of the *Rex Organa*, a name which may be meant for Arkana, i.e., the Teda equivalent of the Bornu Arkama, the Ergamenes (Arkaman) of Meroe, and the name of *Mai* No. IX in the Bornu King-lists. But the region of Malal or Balak (Borgu) was also

called 'Jil ('family of') Argen', and its local chief (one of the most ancient titles of office holders) was called the Arkenuma, Argenuma, or Arjinuma. Near Mao in Kanem there still persists a curious cult of a sun-god who is usually called Umeyi or Yumayi (Aman), but is also, as is his high priest, known as *Midilayi* or *Madila*. *Midilayi* is particularly invoked at a fire-ceremony incident to the putting on by youths of the 'veil'—*t'imedr* in Tamashek, *fune* in Teda—and there seems some probability that the Blemy *Madulis*, the Axumite *Medr*, and this *Midilayi* of Kanem are not unconnected. These ceremonies are sometimes called those of the *Aman Tar* ('hill of 'Aman'), and are carried out at Liloa in the Liloa district of Kanem, or were so until recent years.

Another Bornu royal name was *Biyri*, said to connote water by the Kanuri, and quite possibly a derivative of the Axumite Poseidon's name, *Beher*.

OBITUARY

Sir George Abraham Grierson, O.M.; 7 January, 1851—7 March, 1941.

41 Born at Glengageary, Co. Dublin, and educated at Shrewsbury and at Trinity College, Dublin, George Abraham Grierson graduated with honours in mathematics, and held an exhibition in Sanskrit and Hindustani. He thus manifested as an undergraduate that interest in Indian languages which dominated his career, and brought him to a quite unique position in oriental scholarship. He owed much at Trinity College to the inspiration of the Professor of Oriental Languages, Robert Atkinson, who lived long enough to see his pupil recognised and honoured as he deserved.

In 1873 Grierson passed into the Indian Civil Service, served as district officer in Behar, and rose to be additional Commissioner of Patna in 1896, and Opium Agent in Behar. In 1880 he married a daughter of the late Dr. M. H. Collis. Already in 1886 he had represented the Government of India at the International Congress of Orientalists, and had made the personal acquaintance of many colleagues in Indian philology. In 1894 the Congress gave its sanction to his project for a 'Linguistic Survey of India,' after much preparatory consultation, and the Government of India had the wisdom to recognize that it had at its disposal a scholar fully qualified for so gigantic an enterprise. With the co-operation of district officers and political agents, a first list was drawn up of all the known languages and dialects within the area to be covered by the Survey, and many interesting discoveries were made, even in this preliminary

stage. Examples of each had now to be collected for examination, and in 1898 Grierson was put on special duty as editor, and given a staff and an office in the Secretariat at Simla. But the climate of Simla did not suit him, after so many years in the plains, and he decided to retire from the service and continue his work at home, in a house which he built for himself at Camberley, long refusing to accept emoluments beyond his ordinary pension, and dispensing with office and staff. His principal collaborator in these earlier years was Dr. Konow of Christiania.

The 'Linguistic Survey of India' fills eleven folio volumes, some divided into parts, and describes 179 languages and 544 dialects. Grierson himself was especially interested in the Hindi group of languages, but he wrote the introductory volume to the whole series which brings together into a single presentation the varied aspects of the whole work. Much, too, which could not be conveniently included in the 'Survey' itself was published concurrently elsewhere, by Grierson himself and his helpers, who became numerous as the work took shape. Much, too, came from Grierson's pen on the religious, folklore, and mythology of the peoples of India. Mention should be made also of the great series of gramophone records which illustrates and preserves the pronunciations. He was a rapid worker, and also a steadfast adherent to his great design, with which nothing else was allowed to interfere. He was, however, an active member and for long a vice-president of the Royal Asiatic Society, which awarded to him in 1901 its triennial

gold medal for research. He also received the Prix Volney, in 1905, and many academic distinctions. In 1894 he was made C.I.E., and K.C.I.E. in 1912; and in 1928 he received the Order of Merit.

Such an achievement, besides its contribution to learning, made possible, and also greatly stimulated, systematic research in Indian languages, and

a revolution in the teaching of them in the universities of India, and in the outlook of Indian scholars on this immense field of research. Seldom has the decision of a Government to recognize and facilitate a project of purely scientific and literary research been so amply rewarded by practical and tangible results.

J. L. M.

REVIEWS.

AFRICA.

The Tiv People. By Capt. R. C. Abraham, B.A. **42** *Second Edition.* London, Crown Agents for the Colonies (on behalf of the Government of Nigeria). 1940. x + 177 pp. Price, 10s.

For the past two thousand years the most important ethnic and cultural influences which have acted and reacted on the Sudan belt of Africa have come from north and east. Along a line drawn from Nubia to Lake Chad and then from Lake Chad to the sea at Calabar, it is evident that the spread of Islam, which characterized the tenth and succeeding centuries, was preceded by another strong cultural and religious wave which had some sort of connexion with the Ethiopian kingdoms of Napata, Meroe, and perhaps their successor Aloa in the Khartum region. There still persist, in Kanem and Tibesti, cults and rituals which must have come from the Nile, and there seems no doubt that the group of peoples east of the Lake, known as Beli and Zaghawa, belonged to this cultural stratum, and were related to a group west of the Lake, whom Capt. Abraham calls "the Gwana-Boli people [who] were driven from Kanem somewhere about A.D. 1100, that is, after the Kanem dynasty was established on a "Muhammadan and militant basis." But the Gwana-Boli people is only another name for the peoples known to the early explorers of the Niger valley as Kwararafa—the peoples who were responsible for the theocratic ruling caste which from the fourteenth to the sixteenth century was based on the Gongila valley (Kalam), and later founded important kingdoms at Wukari on the Benue (Jukon), at Idah on the Niger, and again at Aro Chuku on the Cross River near Calabar.

In Chapter I, pp. 1-11, Captain Abraham gives some account of these Kwararafa peoples, but not very fully, and the notes serve mainly as a background to the notes on the Tiv, who, coming from the South, began to grow in importance as an alien intruding element on the Benue about the time the present Wukari was founded in 1840. The Tiv, forty years ago, were commonly called 'Munchi' (the Hausa nick-name for them) and were by common consent totally dissimilar to all the peoples by which they were surrounded. They were a virile and healthy race, rapidly expanding in numbers, and annexing without leave other tribes' 'living spaces.' At first—in the early days of the Protectorates of Northern and Southern Nigeria—very little was really known about them, and for a time attempts were made to control them through the Jukon and other local potentates. But all these attempts failed, and it was recognized that the Tiv were in Nigeria an element unlike any other, and needed special study.

From about 1920 onwards, therefore, a number of young men—in particular Dr. Rupert East, mentioned in these pages—took up an intensive study of the Tiv, and the Administration of the Northern Provinces of Nigeria set to work to apply to the Tiv, as a Bantu unit, the principles—*mutatis mutandis*—which, by then known as Indirect Rule, had since 1903-4 been applied

to the more fully developed Emirates further north. Capt. Abraham was early selected as a protagonist in this work on its anthropological side, and he rapidly became the leading authority on the Tiv and their language. His book, *The Tiv People*, in fact, represents a very thorough study of the religion and organization of the Tiv people. There are upwards of half a million of Tiv who now inhabit part of the Benue Province of Nigeria. It is a particularly good study, since Capt. Abraham as linguist is a genius, and has had access to all possible sources of information in a sympathetic environment. Chapters in the work deal with 'The Tiv Outlook on the World,' 'Folklore,' 'The Unseen Forces in the World,' 'Social Organization,' 'Social Life,' including almost every phase of activity, 'Marriage,' 'Birth and Death.'

In a note Mr. K. Dewar shows how the Tiv clan-organization had begun to be influenced by the Jukon hierarchical custom of conferring 'honours' or 'titles' in the same way as obtained in other backward areas which were influenced by the Jukon, such as Idah or Aro Chuku, and the opinions of Capt. Downes (another Tiv authority) are extensively quoted. The work is, in short, a highly technical, specialized, and reliable guide to the life of the Tiv—invaluable to the student or administrative officer, indeed essential—because the first thing to understand about the Tiv is that these people are not in the least like what might be supposed from experience of neighbouring peoples of other parts of Nigeria—South or North.

There are, of course, other smaller units in the South-eastern part of Nigeria, who show slight Bantu affinities in their speech, but the Tiv in Nigeria are something foreign to the West Coast of Africa: an ethnic unit which was well nick-named by the Hausas 'Munchi,' 'the eaters' or 'devourers.'

At one time the "Munchi" and their future was an anxious and thorny administrative problem. That today they have settled down to peaceful progress and ordered rule is a great tribute not only to the spirit in which the administration of these backward regions has been conducted since 1900—when Lord Lugard hoisted the Union Jack at Lokoja, where the Benue and Niger unite—but to officers like Capt. Abraham, the author of this book, and Dr. East, Capt. Downes and Mr. Dewar, and many others who have all contributed their quota to the better understanding and management of this interesting though somewhat difficult and unruly people

H. R. PALMER.

Chaga Childhood; a description of Indigenous Education in an East African Tribe. By **43** O. F. Raum, Ph.D. Published for the International Institute of African Languages and Cultures by the Oxford University Press. 21s.

Dr. Raum has blazed a new trail in this book. It is the first study of indigenous education which combines a historical review of the subject with an intimate

knowledge of the particular field in which the study was made. He does in fact combine the role of the trained teacher and the trained anthropologist, and this dual approach is evident throughout.

Part I of the book is devoted to the history of indigenous education. Dr. Raum reviews the contributions of travellers, scientists and teachers, English, French, German and American, with emphasis on the growing importance of field-work method. He then proceeds to discuss the problems of methodology, and emphasises the necessity for combining the biographical method of anthropology with the observational method of psychology. He admits that his 'case histories' of individual children were limited to five—a point at which his work is perhaps open to criticism. But he justifies his choice of these particular cases on the grounds that in four of them the parents were sufficiently educated to assist in noting down developments in their children, especially changes in speech. Here the field anthropologist is aware of one of the inherent difficulties in field-work. In studying a subject like indigenous education, he is obliged, because of the limitations of his time in the field, to observe many children at different stages of growth, instead of a few children in their successive stages of development. This is a serious scientific drawback, in that generalisations have to be made about children instead of following the individual child in its reactions to the social training given by the tribe. Readers, whether anthropologists, psychologists, or teachers, will welcome the frankness with which Dr. Raum discusses all these problems of method, and will find them illustrated throughout the book.

The next two sections of the book deal with birth customs, under the heading of "the entry of the child 'into society,'" and with the period of infancy, including feeding, maternal care, and the development of speech and of manipulative skill. These sections will probably appeal more to psychologists and teachers, and anthropological interest will focus on the sections on childhood and adolescence. Here the material, which is very well arranged and presented, would have been even more valuable, if there had been included somewhere in the book a brief introductory account of the Chaga people, giving their relation to other tribes in Tanganyika, and to the European influences affecting them in administration and missionary work. The importance of such a short sketch of the people and their country is admirably illustrated in Dr. Richards' first chapter in her *Land, Labour and Diet in Northern Rhodesia*. All specialist studies which are based on field work among one tribe should be prefaced by such a bird's-eye view of the tribe in its modern setting. Without such an introduction, the account of the process by which a child is taught to become an adult member of society is apt to lack precision and orientation.

Anthropologists will do well to study carefully Dr. Raum's accounts of initiation rites among the Chaga, and particularly the relation of adolescents and young adults to the generations above them. A number of important problems are raised, which will engage the attention of psychologists and teachers, even of administrators, for a long time to come. He also brings out very clearly the necessity for observing the changing relationship between parents and children, not only during and immediately after the initiation rites, but during the whole period from adolescence to adult maturity. Here again the limitations of field work have to be faced, and some collaboration evolved, perhaps between anthropologists and teachers, which will give accurate records of these successive changes in individual development.

Dr. Raum defines education as the relationship between successive generations. His study leads him to

the conclusion that the three main educational agencies in Chaga life are the family, the age group, and the tribe. But now the school, with its western influences, has brought in another wholly different type of education. Can any synthesis be made between the two? Dr. Raum has some very interesting and challenging proposals to make in his final section.

M. H. R.

Social Organization of the Gã People. By M. J. Field, B.Sc.Lond., Ph.D.Lond. London: Crown Agents for the Colonies. 1940. 231 pp. Illustrated. Price 12s. 6d.

44

The result of much patient labour, this substantial contribution to the social anthropology of the Gold Coast is the complement of the author's work *Religion and Medicine of the Gã People*, with which it should be studied. An analysis is given of the social structure of the Gã towns Temma, Nungwa, Accra, Osu, Labadi and Teshi. The volume consists of two parts. Part I treats of the Family or 'House,' kinship usages and customs. There is much that is new in this, but kinship nomenclature gets a very brief notice. A list of terms is not given. Part II describes the towns from the point of view of the evolution of the social organism. The aim of the book is to show the consequences of the impact of the Native Administration Ordinance on the underlying native constitutions. The Ordinance having been constructed primarily for the Twi-speaking tribes is not well adapted to the essentially different constitution and needs of the Gã, and their reactions to it are worthy of study. The interplay of the religious, military, and political factors is clearly set forth, together with the functions of the respective officials. The Stool histories are noteworthy. There has been much misunderstanding of the nature of the Stool by Europeans. The Stool is a war medicine, a magical apparatus in which abides a supernatural power, and the priest of the Stool has a purely supernatural influence. The Stool is made by a very big medicine-man, and human sacrifice is involved in the process of putting its power into it. It is rather confusing to be told that the priest of the Stool cannot be de-stooled, and then to be given examples of de-stoolment, but the author explains later that de-stoolment means being ignored.

One of the difficulties of field-work is adjusting a nice balance between sincerity and sympathy. Dr. Field tells us she is 'a friend of the local religion,' but this must have its disadvantages, especially when a 'possessed' woman claws out handfuls of the author's hair (p. 95). Dr. Field thinks that a 'possessed' person does not really do anything that she would be ashamed of in her normal state. This is not the case with some other African tribes. (Cf. Dr. Wilder's paper on the Vandau in the *Hartford Seminary Record*.)

The chapter on 'Future Problems of Administration' is a forceful one, containing some wise remarks about 'money and the forces of morality.'

In the printing of native words there has been considerable confusion between the letter f and the international phonetic symbol f (for sh). If the book runs into a second edition, there are other corrections to be made as regards these symbols.

'Blatent imposters' (p. 76 footnote) is queer spelling for a learned work. Footnotes are sometimes a snare.

E. D. EARTHY.

A Swahili-Botanical-English Dictionary of Plant Names. By P. J. Greenway, F.L.S. Dar es Salaam. (East African Agricultural Research Station, Amani, Tanganyika Territory.) 1940. 308 pp. 4s.

Many African tribes, notably the Swahili, have an extensive vocabulary of botanical names and terms,

even morphological, systematic and ecological ones! This little volume shows its great value by having run into a second edition, which to the mind of the layman, is a great improvement on the first, by the new feature of Pt. II (Botanical-English-Swahili) and by the addition of over eighteen hundred names. Swahili being an urban mixed language, tends to borrow the names of plants from the tribal dialects of the rural population.

A native name is generally given on account of some real or supposed property of the plant, and thus a detailed study of the names of plants throws considerable light on the folklore of the tribe. As plants have manifold rôles in African economy and religious rites, so the names may vary from village to village, or according to the profession or occupation of those who use them. Most medicine-men (so-called witch-doctors) have their special names for plants.

In Swahili, there are not so many names of Arabic origin as one might expect. The majority of Swahili plant names have the prefix *M* or *Mw* in the singular, the plural prefix being *Mi*, but the plural of the flowers and fruit is *Ma*. Thus *muafu* is the plant, *afu* the flower and *maafu* the flowers.

In a superficial collection made in P. E. Africa in the coastal region between the Limpopo and Inhambane, the writer of this notice found at least seventy of the species described by Mr. Greenway, most of them being used in medicine or native rites. As Mr. Greenway says, it is not possible to mention all the medical and economic uses of a plant in a work of this scope; nevertheless it is interesting and profitable to compare the uses made of plants by different tribes. A very few of the Swahili names are the same as those of the Lenge of P. E. A. For instance, *mkwakwa* is the Swahili name for a species

of *Strychnos*, and a large sib in Gazaland, P. E. A., derives its title of *Makwakwa* from the fruits of this species.

It is interesting to note that the Lenge have a term for 'diœcious', the male plant being called *wa matumt*. Mr. Greenway does not mention this among the Swahili terms.

It is a pity that botanists do not seem to agree as to the spelling of some generic names. We find *Dichapetalum* and *Dichopetalum*, *Oxygonum* and *Oxygonium*, *Jasminum* and *Jasminium*, *Gieseckia* and *Gisekia*, etc.

E. D. EARTHY.

The Political System of the Anuak of the Anglo-Egyptian Sudan. By E. E. Evans-Pritchard. London School of Economics; Monograph No. 4. London: Lund, Humphries & Co., 1940. x. + 164 pp., diagrams and illustrations. Price 7s. 6d., paper bound.

This book is a study of the nobility of a part of the Anuak country, and of the way in which the insignia of kingship, spears, beads, stools, etc., pass from one representative of royal power to another. Actually the power of the kingship is small, for it is based only on a village or group of villages, and it has very restricted judicial and political authority.

Now the sanctity of kingship and the interest in the sacred symbols begin to fade because effective power lies outside the system of balanced forces, that is to say in the British Government. In another part of Anuak land there are headsmen, who depend for their tenure of office on the good will of the villagers, and are quite frequently ostracized.

The introductory chapters give a useful picture of the environment, of the various types of villages, and of agricultural products.

G. O. WHITEHEAD.

RELIGION AND FOLKLORE

The Social Function of Religion: a comparative study. By E. O. James. London: Hodder and Stoughton, 1940. 312 pp. Price, 7s. 6d.

This is not an easy book to review in a specialist periodical, for it includes theology, anthropology, history and one or two other disciplines in its scope. The first of these is the author's principal concern, for not only is the work included in the London Theological Library, but the central proposition is that religion, by which Professor James understands a liberal and enlightened form of Christianity, must be an essential and central element of any modern culture acceptable to men of good will; humanism leads to nothing better than totalitarianism (p. 34). This proposition is supported by two main lines of argument. Firstly, it is shown that religion of some kind (the minimum definition is "a belief in the existence of a transcendental reality giving rise to a system of super-causation expressed in rite and myth," p. 2) has always been of fundamental importance to all communities, from the family to the State. Secondly, the failure of non-religious systems or, when they attain any measure of success, their adoption of what is essentially a religious form, complete with myth (generally one relating to racial origins, or an unproved and untrue economic assumption) is described in some detail. Theoretically, the author makes out an excellent case; practically, it might be objected that he does not show how any existing religion is to attain so dominant a position, in a world largely hostile or indifferent.

In his historical and anthropological review of the history of religion in its relations to individual conduct (chapters I-IV) and to larger or smaller communities (chapters V-VIII) Professor James for the most part shows good sense and adequate learning. His rejection, for example, of the theories of Briffault and Freud

(pp. 159 ff.) is thoroughly sound. Here and there, however, he is less dependable. In many passages he is too apt to write as if the ideas of Professor Hooke and Mr. Hocart were conclusively proved, and to be taken for granted without further argument, a position which is at least disputable. Hence, for instance, his history of Hebrew ritual (p. 92 ff.), though interesting, is open to doubt. In dealing with Greek cult (p. 139 ff.) he is not always in accord with the best and soundest views, particularly in regard to Orphism, where he seems to have made no use of the work of Mr. Guthrie. On p. 173 the old and quite wrong-headed idea that the *Eumenides* of Aeschylus has a sociological significance reappears, and in general (as on p. 178) his views of mother-right need revision. Of actual misstatements of fact there are very few, one at least being clearly the result of some slip of pen or press (p. 142, "the Pythoness, a Delphian title of Apollo"; the author no doubt meant to write something like "the Pythia or Pythoness; Pythios is a Delphian title," etc.). On p. 202, it is not true that the Roman *pontifices* "had in their hands all the more important offices religious and secular." A misprint on p. 247 gives Hindenburg an extra *h*. Against such faults of detail may be set much that is good and provocative of thought, notably the account in chapter IV of the relation of religion to ethics.

H. J. ROSE.

Dance Quest in Celebes. By Claire Holt. Paris, 1939. 126 pp., and plates with 111 photographs taken by Rolf de Maré, Hans Evert and the author. This booklet is one in a series of publications on folk dances of various nations, issued by 'Les Archives Internationales de la Danse,' 6, Rue Vital, Paris (XVI^e). The author joined the founder of that institution and

his assistant in a four months' survey trip through Java, Bali, Celebes, Sumatra, and Nias, undertaken with the object of collecting data concerning native dances, taking photographs and moving films, and purchasing dance-costumes and accessories. Eight days were allotted to a rush through the south-western peninsula of Celebes, a sequence of performances having been arranged beforehand by local governmental and missionary experts in native culture. In this way it was possible, in spite of the time handicap, to sample a good number of dances of different nature and provenance.

The narrative of the journey is presented in diary form. Travelling by car up the west coast and down the east coast, the expedition first proceeds through regions inhabited by Macassars and Bugis, then crosses the highland of the Sa'dan Toradja, the south-western group of the non-Muhammadan inland population of Central Celebes, and finally finds itself in Buginese lands again. Apart from the description of the dances, other impressions are recorded, foremost among which are the ceremonies connected with the final intombment of a Toradja man of rank, the placing of the coffin in a rock cell, hewn high up in the wall of a huge cliff.

The photographs, illustrating dance-postures and various other impressions, are of good quality, though not shown to advantage in the reproduction. Notes and an appendix are added, the latter containing a classified summary of the dances, diagrams of the choreographic formations and figures, and an index of names and foreign words. The present publication will be followed by a second and a third volume, by the same author, on dances in Sumatra and Nias. H. MEINHARD.

British Calendar Customs. Scotland, Vol. II. By

49 Mrs. M. Macleod Banks. *Folk Lore Society, Wm. Glaisher, Ltd., 1939. 253 pp. Price 15s.*

The Scottish patriot might be excused for opening this book with a feeling of elation. 'Here,' he might say, 'I shall find the lore of my native land; the essence of the experience of my countrymen, handed down through the centuries by word of mouth from father to son, neither altered nor forgotten'. But the social anthropologist knows that he is doomed to disappointment. Too much of folklore is composed of the kind of jingle about the oak and the ash of which our humorist 'Fougasse' makes such fun when he says—

"If the chestnut be out before the willow,
"Don't take your head from off the pillow;
"If the willow be out before the chestnut,
"You may get up but perhaps you'd bestnut."

And so it goes on. Anyone may think out such verses for himself, and one would think that with the amount of material to hand, the folk-rhymer would have added something to the store of human knowledge. As a fact he has added nothing and probably lost a great deal, and in what remains one may trace similarities

with every country in Europe and a good many in Asia. However, it is a good thing to have this mass of material collected and collated, and we may hope that in spite of the war the next volume will follow fairly soon, with an index which will make investigation and comparison easier and quicker. JULIA RAGLAN.

Haunted England. By Christina Hole. London: Batsford, 1940. 184 pp. 10s. 6d.

50 This book is frankly a digest of ghost stories of all dates and associated with various places in England, collected from various sources from the eighteenth century onwards, but mostly, perhaps, of the first half of the nineteenth; though instances are given of ghostly phenomena as lately as the last decade. These stories are classified into different categories, in a simple if at times rather superficial way.

One is struck by the unexpected number of 'screaming skulls' in this country, in view of the very rare occasions on which anything is heard of them. Enough instances have been found to fill a chapter. It is interesting again to find the business of conjuring the ghost into a bottle, or in another case into a snuff-box, and throwing it into the sea, by preference apparently the Red Sea, performed by a band of a dozen parsons as late, seemingly, as sometime in the eighteenth century.

Some of the accounts are not quite complete. Amy Robsart, in addition to the places mentioned, used to appear also in Worcester College, Oxford, where her corpse rested in what is now the Junior Common Room, while the story of the haunted room in Corpus Christi College, Cambridge, has more to it than Miss Hole tells us.

The exceptionally well-attested ghost at Horsepath might have been included with advantage. The Black Dog, a familiar ghost which haunts among other places the reviewer's own drive, is accredited by Miss Hole to dogs buried as foundation sacrifices under churches, etc. But it is nearly always a road or a pathway away from buildings that is haunted by a black dog, and any association of it with foundation sacrifices is probably mistaken. Occasional moralizations and suggested explanations on non-materialistic grounds, of phenomena which are not scientifically or critically examined, would have been better omitted.

The volume is illustrated with a number of futurist (?) drawings of a quasi-comic nature not unsuggestive of a phantasmagorical nightmare. If Major Loftus's sketch of Lady Dorothy Walpole's ghost, or Reginald Easton's drawing of the ghost at Thurstaston Old Hall, could have been reproduced, they would have had real interest. As it is, the distorted imaginings sprinkled through the text have little real relation to it or to anything else, and give the impression of having been included merely to provide some sort of illustration in default of really appropriate matter. Otherwise, as a collection of typical English ghost stories given for what they are worth, the volume is well enough. J. H. HUTTON.

INDIA.

Social and Physical Anthropology of the Nayadis of

51 Malabar. By A. Aiyappan. *Madras Government Museum Bulletin, New Series, General Section, Vol. 2, No. 4, 1937. iii + 141 pp., 12 plates. Price 3rs. 2a.*

The greater part of this volume is concerned with social anthropology and the scope of the subject is conceived as widely as possible. An introductory section discusses method in ethnographic research, and this is followed by accounts of the country and history of the Nayadis, definitions of terms such as 'tribe' and 'caste,' census returns—a corrected estimate makes the

total population less than 600—and early descriptions and legends of origin of the people. The main topics treated are the social environment, settlements, material culture, social organization, modes of life (begging and hunting), diet, ceremonies and customs and religion of the group. In a word, all aspects of the life of the population are discussed and different kinds of evidence are marshalled and co-ordinated in a most readable account.

The Nayadis are said to be 'undoubtedly the lowest known caste in India,' and the question of how their lot might be improved is discussed. In the author's

opinion the possibility of farmers employing the people as free labourers is the only hope for them.

Measurements and observations of physical characters for 62 men and 42 women are given. For most features,

as in their caste status, the Nayadis are found to be midway between the hill tribes and the castes of the plains. They are short, but not extremely so among Indian groups, and their heads are remarkably small.

G. M. M.

GENERAL.

The Illusion of National Character. By Hamilton Fyfe. London: Watts & Co., 1940. 274 pp. Price 8s. 6d.

52 The 'illusion of national character' is that, e.g., all Englishmen are in some respects different from all Frenchmen. The author shows that although in modern times most people have been convinced of the reality of these differences, there has never been anything like agreement as to what the characteristics of any particular nation are. Nelson is for many the typical Englishman, yet nobody could be less like 'John Bull.' 'Character, whether of individuals or of groups, is "formed by environment, education, not by common "ancestry" (p. 186), but the author probably lays undue stress on the physical environment, as when he agrees with a French writer that the English addiction to games is due to the climate.

RAGLAN.

Principles of Animal Biology. By Launcelot Hogben. London: Allen and Unwin, 1940. 2nd ed. revised, new illustrations by J. F. Horrabin. 8vo. 416 pp. Price 7s. 6d.

53 In this new edition the object of the book remains, to supplement laboratory work with a general introduction based on evolutionary principles with emphasis on function throughout. The chapter in which the vertebrate skeleton is used to illustrate the principles of geological succession by reference to the fossil record takes full account of recent discoveries of early types of man. The new illustrations are not only clear but pleasant to the eye. While much of the matter is of interest mainly to zoologists, the chapters on the 'Machinery of Inheritance' and on 'Evolutionary theory to-day' are commended to anthropologists who make use of 'evolutionary' and 'functional' phraseology. Not that the risk of perversion is all on one side. As Professor Hogben says (p. 15) "biologists do not use the word *living* in the same sense as lawyers "or metaphysicians," and it was a pity that they let themselves be called 'biologists'; but that is ancient history. There are some sound remarks about 'homology' and 'convergence' (pp. 382-3) on 'race' (pp. 386-7), and on 'conscious behaviour' (p. 96) as they appear to a biologist.

J. L. M.

A Bibliography of the Statistical and other Writings of Karl Pearson. Compiled by G. M. Morant, with the assistance of B. L. Welch. Cambridge University Press, 1939. viii+119 pp. Price \$6.

This book is divided into six sections:—Writings on the theory of Statistics and its application to Biological, Social, and other Problems; Writings on Pure and Applied Mathematics and Physical Science; Literary and Historical Writings; Writings on University Matters; Letters and Reviews; Syllabuses of Lectures.

The entries are arranged chronologically in each section; the earliest being a paper 'On the Distortion of a Solid Elastic Sphere' in the *Quarterly Journal of Pure and Applied Mathematics*, Vol. 16, 1879. The latest entry is, appropriately, Karl Pearson's well-known *Grammar of Science* in the 'Everyman Library' edition of 1937. In all some 648 items have been recorded, and they show, as perhaps no other work could show, how wide were the interests of the distinguished scientist and scholar in whose honour this bibliography has been compiled.

J. P. G.

So Live the Works of Men. Seventieth Anniversary Volume honouring Edgar Lee Hewett. Edited by D. D. Brand and F. E. Harvey. University of New Mexico Press, Albuquerque, New Mexico, 1939. \$10.00.

55 In this volume are collected essays by twenty-seven friends and colleagues, their subjects ranging in time from the mesolithic to the modern, and in place from China to Peru. In their range of time and space they form a fitting tribute to a veteran anthropologist and archaeologist who, like the pioneers who taught him, saw the science of man as a whole, contributing to many sides of it, and showing an interest in all. Just over half of the contributions are on matters concerned with the American Indian and especially with American archaeology. This is fitting in a tribute to a man who for over thirty years has been Director of the School of American Research, and was mainly responsible for the inception of Federal and State laws for the preservation of American antiquities and national monuments. No one did more than he to impress on American scientific students and on the general public the interest and value of their prehistoric sites.

T. K. PENNIMAN.

CORRESPONDENCE.

Excavation of a Prehistoric Site in Manitoulin District. Ontario. (Cf. MAN, 1940, 100.)

56 SIR,—In MAN, 1940, 100, I described briefly the work of the Museum of Anthropology of the University of Michigan, in the Manitoulin District of Ontario, during the summer of 1939. This work was continued during the summer of 1940 with results consistent with those of the previous seasons.

In August a site, for which a high antiquity is indicated, was found six miles northeast of Killarney, on a raised beach of Lake Huron, 297 feet above the present level of that Lake, and about four miles inland from its present shore. It is a workshop where implements were made of white quartzite obtained from immediately adjacent outcrops, rather than from the

rounded quartzite pebbles and boulders of the beach itself. The site shows no pottery, no flint, no bone material of any kind, and none of the artifacts have ground surfaces. The beach is below the Lake Algonquian level (the last glacial Great Lakes) which at this point is at an elevation of about 485 feet above the present Lake Huron, according to Dr. George M. Stanley. The beach lies in a sheltered position, in what was a deep narrow bay when the Lakes were 297 feet above the present level, a mile or more from the main lake shore of that time, on the south shore of a range of the quartzite hills of the Laurentian Shield. It is about 500 feet long, east and west, with the cultural materials occurring in greater profusion on the eastern two-thirds.

The following types were collected in an excavation 90 ft. by 10 ft., from the surface and to a depth of about 15 inches: semi-lunar knives from 5 to 10 inches long, most of them quite thick and very roughly flaked; cleavers, ovate-pointed in outline and mostly plano-convex in cross-section, up to 7 inches long; two awls about an inch long, one of them a flake with secondary chipping only on two faces; two forms resembling end-scrapers, but which may have been produced by natural agencies. Two narrow 'channel-flakes' with secondary chipping; a fluted flake with secondary chipping on one edge; and several points of large blades, of which nothing can be said of the basal portions.

Several thousand flakes were collected, and a few have been replaced in original positions on artifacts, indicating that the latter may not have been carried far from where they were made. No artifacts were found in water-laid deposits, but about a score are water-worn. This includes half of a semi-lunar knife much worn on the angles of both faces, and on all edges including the broken edge. Much of the material is patinated, alike by discoloration to a uniform depth beneath one or both surfaces, and on the angles formed by flake-scars by a glaze similar to that on the flints from Savernake, and also in Rhodesia (A. Leslie Armstrong, 'The Antiquity of Man in Rhodesia,' *J.R.A.I.*, Vol. 66, pp. 343-344, which I believe to have been produced by friction due to minute movements of the beach over a long period.

Some of the pieces show a further finer retouching on one edge than on the other, and on several of the semi-lunar blades this finer work is on the curved edge. The flake-scars on most of the artifacts are very coarse, making it possible to regard them as roughed-out forms which were to be finished elsewhere. If this is the case, the finished forms have yet to be found in this region. The flakes themselves are wide in proportion to the length. Bulbs are weak, and the angle of the platform to the inner surface of the flake is a little less than 90°. There are a few long, narrow flakes, unfuted and accidentally produced. One has secondary chipping along one edge. Most of the artifacts have a massive, crude appearance, with flake-scars as much as five-eighths of an inch deep, but the finding of four semi-lunar knives with cross-sections half an inch thick and flake-scars less than one-eighth inch in depth, indicates that finer work was done, and that finished forms were produced on the site, although these four knives are all halves, broken at the centre. Some of the artifacts show a finer retouching on one edge on the other, and on several of the semi-lunars this finer work is on the curved edge. The flakes themselves are wide in proportion to the length. Bulbs are weak, and the angle of the platform to the outer surface of the flake is a little less than 90 degrees.

The weak structure of quartzite as compared to flint may have much to do with the primitive appearance of most of the artifacts.

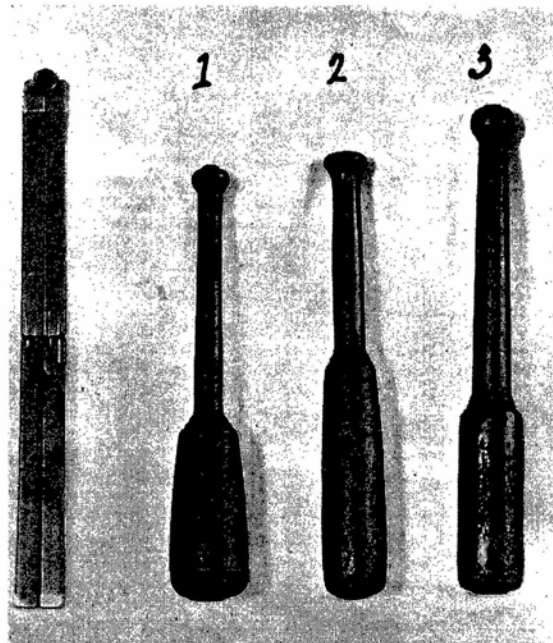
The absence of artifact-types common elsewhere in this region and generally in the United States and Canada is consistent with the antiquity postulated for this site. The celt, the stemmed or notched projectile-point, the triangular unnotched point, and perhaps the end-scraper, are not inferrable from any of the larger forms which might be regarded as 'blanks,' and they are not present as finished forms. So far as is known, no flint was available in the region, when the water of Lake Huron were at the level of this abandoned beach.

University of Michigan.

E. F. GREENMAN.

Squoyles and the Squller. *Illustrated.*

57 SIR,—Over fifty years ago, when I was a child in Bournemouth, the gardener used to carry in his pocket a small club loaded with lead. He could throw it very far and with great force. With it he used to kill rabbits, squirrels, and even the neighbour's fowls when they scratched up his seeds. I gathered from him that it was a custom for all New Forest-bred men to carry such a weapon, but to-day it seems obsolete, and



THREE 'SQUOYLES' FROM HAMPSHIRE

all my inquiries on the subject in every direction have proved fruitless. Both the club and its uses are completely forgotten.

However, in a curio-shop in Christchurch, Hants. I discovered and bought three, from a collection of clubs, police-truncheons and such small arms; but beyond, their purchase I could obtain no information about them. They were 'just clubs.'

I communicated with Professor Hutton of Cambridge, who told me that while the 'Squoyle' was recorded as specifically a Hampshire weapon, beyond the fact that it was a throwing cudgel its description was unknown. Therefore I assumed it might be of interest to record a description of these three 'Squoyles.'

No. 1 is 10 inches long. Unloaded.

No. 2 is 10½ inches long.

No. 3 is 11 inches long.

Nos. 2 and 3 are loaded with lead while No. 1 is not, though its wood is much thicker and heavier. All fly well when thrown.

I assume that throwing-cudgels must have been common to England in the past and in the cruel sport of throwing at cocks such cudgels were used. This, and the 'Aunt Sally' of the fair-ground, are the only examples known to me.

I am ignorant whence the name comes, but I have heard that until the date 1890 life-lines were thrown to ships in distress by means of a loaded stick called a 'Squller.' Can this implement be a heavier variety of the 'Squoyle'?

G. B. GARDNER.



1. BOAT USED IN 'TAKUR' NET FISHING, UNDER SAIL.



2. HAULING IN A 'TAKUR' NET OFF THE KELANTAN COAST.



3. SALE AND DISTRIBUTION OF FISH FROM A 'TAKUR' NET IN KELANTAN.

The carrier boat, newly arrived, is drawn up on the beach

'TAKUR' NET FISHING IN KELANTAN, MALAYA.

MAN

A RECORD OF ANTHROPOLOGICAL SCIENCE

PUBLISHED UNDER THE DIRECTION OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

XLI, 58-69

JULY-AUGUST, 1941

ORIGINAL ARTICLES

With Plate D

Economics of a Malayan Fishing Industry.¹ By Professor Raymond Firth, D.Sc., London School of Economics.

58 The economic systems of peasant communities, particularly in the British Colonial Empire, still offer a wide field of study. This is so even in Malaya. Despite the excellence of the administrative and technical services, information on the actual productive organization, capital investment and accumulation, credit and indebtedness, systems of distribution and income-levels of the Malay cultivators and fishermen is scanty. The reason for this gap is partly because the study of economic conditions of the peasantry has fallen between the two branches of the service, and is not specifically the concern of either, and partly because the importance of a systematic technique of intensive research into such conditions, especially as provided by modern social anthropology, has not been well appreciated. Quite apart from the scientific value of such material, an important guide to policy has thus been neglected.

In 1939-40 my wife and I carried out research on the social structure and economic organization of rural Malays, particularly in the Unfederated States of Kelantan and Trengganu. We paid special attention to the fishing communities, and spent approximately eight months living in a Malay village on the coast of the Bachok district, in Kelantan. The area chosen for intensive study had a population of about 2,000, and included the contiguous villages of Perupok, Paya Mengkuang and Pantai Damat; an economic census was taken of 331 households, with a population of 1,301. The primary field for my own study of the fishing industry was a stretch of beach about half a mile long, fronting the three villages, and forming a landing-place for all the boats, and an initial market for the fish. Inland a little way stood the houses of the fishermen and dealers, with a road serving the small motor-buses which carried most of the fish to the inland market-towns. Further back, to a depth of about half a mile, lay rice fields, interspersed with dwellings, clumps of coconut palms, and other trees, until the Kemassin River was reached. This formed a virtual boundary between the fishing communities and the agriculturalists of the interior.

Many of the fishermen have secondary sources of income through the cultivation of rice and vegetables, and also from craft-work. But the community depends primarily upon its fishing activities for the cash income necessary not only for the purchase of clothing, tobacco, coffee, lamp oil, and other articles, but also for the imported rice which is the staple food of most of the people.

This article is a brief account of a few broad results in one section of the study, namely, the system of distribution in one major type of fishing followed in the area—that with the large ground-net known locally as *pukat takur* (*pukat tangkul* in standard Malay). This type of fishing is extensively practised in Kelantan and Trengganu, and though there are many local variations of practice, the account here given represents the general principles of the complex economic organization.²

¹ Extract from a communication made by Dr. Raymond Firth to the Royal Anthropological Institute, 18 February, 1941.

² I wish here to acknowledge my indebtedness to the Trustees of the Leverhulme Foundation, who by the grant of a Research Fellowship made my work possible, and to the Governments of Kelantan and Trengganu, who most kindly afforded facilities for the study.

A few notes on technology, costs, and the organization of production are necessary to make clear the basis of the distributive scheme.

The Pukat Takur.

This is a large ground-net, about 150-160 feet square, with a slight belly in the centre. It is composed of seven sections of different mesh, that of the finest mesh forming a square in the centre, while the others, of increasing mesh, surround it in turn till the outer edge is reached. To this are attached the double edge-ropes which take the strain, and at each corner is a strong loop to which a net-rope is attached when the net is in use.

The net is made in many strips, by piece-work, mostly by women, to whom the owner gives out thread and net-gauges, collecting and paying for each strip when it is finished. When all are assembled the strips are joined by a paid male expert; the edge-ropes are lashed on by the owner and his crew; the net is dyed several times in an infusion of mangrove bark, and is then ready for sea. The whole process of manufacture takes up to five or six months.

The total cost of net alone, *i.e.*, of thread and labour, was about 150 Straits dollars, early in 1939; in 1940, as a result of a rise in the price of the imported thread owing to the War, it was about 200 dollars (about £25 sterling). If the net is sold on completion, as many are, the price is calculated to yield about \$50 profit on a sale for half cash down, or \$75 or so on a sale with a smaller amount down. The balance is paid in instalments, according to the buyer's success. Most of the sales are made on verbal agreement, though some sellers obtain a written agreement 'signed' with the buyer's thumbprint. The debt is usually cleared off in from six months to a year, but disputes over the slowness of repayment are not infrequent, and a lawsuit or seizure of the net by the seller sometimes occurs. I calculated that about 40 *takur* nets are made for sale by wealthy fishermen and others each year in the Perupok area. Apart from this specific entrepreneurial function, most of the fishermen using *takur* nets here sell them off before they are worn out. The average life of a *takur* net is about 3 years, and a net a year old fetches about \$100, while one two years old fetches about \$50. Since the number of *takur* nets in use on the Perupok-Pantai Damat beach is about 20 (it

varied between 17 and 21 when I was there) it is clear that the annual turnover in old and new nets is considerable—I would estimate it between \$9,000 and \$10,000 per annum. Buyers for both types of net come for many miles—from Tumpat to the north, and from Besut in Trengganu in the south.

The following account, however, is concerned with the net as an item of capital equipment in fishing, not as an item for sale. As such, before it can be used at sea, it incurs additional costs, primarily for ropes and anchor-stones, which come to about \$50 extra. Accessories for dyeing and repair must also be provided, but they can be omitted here, since their costs enter less directly into the scheme of distribution.

Organization of Pukat Takur Fishing.

Pukat takur in the Perupok area are owned individually. In some other areas, as Ayer Tawar at Besut, they are owned by small groups of fishermen (*konsi*). In most cases the owner (*tuan pukat*) is also the expert fisherman (*juruselam*) who is responsible for the organization of the net-group, and has the most active role in the fishing. But in some cases a few other of the more responsible fishermen in his group—usually the boat-owners—'enter the net' with him, on a profit-sharing basis; they put in no capital, but contribute labour to net-mending and other services.

Pukat takur netting is practised to secure primarily carangid and clupeoid fish, that is, horse mackerel and herring of a number of species, which appear in shoals from five to fifteen miles off the coast at the appropriate seasons. An essential feature in their capture are the structures known as *unjang* or *rumoh ikan* ('fish houses'). These consist of branches, normally coconut fronds, tied at intervals of a few feet on to long ropes. They are of two types. The first is the *unjang ibu*, 'parent *unjang*,' set down in the sea at the beginning of each fishing season after the monsoon, and renewed when required; each is attached to a bamboo float, and weighted to the bottom by a heavy stone or a bag of sand. It attracts the fish, who find shelter and possibly food there. According to the fishermen, the fish assemble there to play. The second type is the *unjang ano*, the 'child *unjang*,' which is taken out daily on the boat of the *juruselam*. It has a stone anchor, but no

float; its purpose will be clear from the following account. In the Perupok area *unjang ibu* may be set down by any member of the net-group, though generally the *juruselam* or one of the boat-owners does so. The *unjang ano* is the property of the *juruselam* himself. This point is reflected in the distributive scheme.

Each net-group normally consists of six boats, each with a crew of five. More successful *juruselam* attract larger crews, and the less successful have sometimes to be content with fewer, but a minimum of five boats is essential, and in all but the finest weather four or five men per boat are necessary. Each boat is described according to its functions. The *prahu sampam*, which moves in and out of the net, is the boat of the *juruselam*. The *prahu pukut* carries the net to and from the fishing ground, and its crew take part in handling the net at one corner. Three other boats, one at each corner, are *prahu mēnarek*, assisting the *prahu pukut* in casting and hauling the net. Of these, one, which is upstream as regards the current, is termed *prahu atas haruh*; another is *prahu bawa haruh*, downstream, and the third is *prahu bēlaboh*, a term also used to include the upstream boat. Each of these boats normally retains the same position in the work every day of the fishing. The sixth boat, if there is one, is described later. Each boat has a captain (*juragan*), who is usually though not necessarily its owner.

In the *takur* fishing season the fishermen go out before dawn—as early as 2 a.m. or 3 a.m. if the wind is light or threatens to be contrary later on. The course is set by the *juruselam*, and the other boats follow him. Arrived at the fishing grounds, he examines *unjang* for fish—first from above, and then by submerging himself beneath the water. His title of *juruselam* comes from this 'diving' (*sēlam*). Beneath the surface, the *juruselam* listens for the sounds made by the fish; a properly trained man can easily distinguish the characteristic noises made by different types, and get some idea of the size of the shoal. Though I went out with the *takur* fishermen I did not myself 'dive,' but several *juruselam* described to me in great detail the various 'fish noises.'

When fish are located in sufficient numbers at an *unjang*, the work of the net begins. The net is first cast, and sinks to the bottom. The 'parent *unjang*' is then released from its bamboo float, attached to a long cord, and allowed to

sink also. The boat of the *juruselam*, the *prahu sampam*, then paddles gently into the centre of the net, paying out the 'child *unjang*' as it goes; this is to provide a substitute place for the fish to congregate in. The boat then returns outside the net, and waits some time for the fish to rise from the 'parent *unjang*' to the 'child *unjang*.' Assuming they do so, the 'child *unjang*' is gradually hauled up into the boat again and the net is drawn up. As the fronds of the 'child *unjang*' come in, the fish retreat; when the loops at the corners of the net are near the surface the remainder of the 'child *unjang*' is drawn up hard, the net ropes are also hauled in strongly, and the fish are left in the net. This is then pulled in and the catch transferred to the sixth boat, the *prahu praih*, which has been standing by for the purpose—or to the *prahu bawa haruh*, if there is no sixth boat.

The sixth boat provides the transport for the fish, and normally takes no part at all in the work of casting and hauling the net. Its captain, called the *praih laut*, the 'sea middleman,' is the carrier agent and selling agent on behalf of the net-group, with great discretionary powers. The position of the 'sea middleman' varies in different *takur* areas; in most he is not a member of the net-group and agent for it, but a separate dealer on his own account.

The details of the process of marketing the fish are intricate, and of great economic interest. But there is not space to describe them here.

Scheme of Distribution.

The allotment of shares in the distribution of the takings from *takur* fishing can be understood only in the light of the earlier analysis of the functions of the different factors of production.

In this Mohammedan community, with its prescription of attendance at the communal praying-place at midday on Fridays, *takur* fishing is impossible on this day. Repair and dyeing of the net is done, but the fleet does not put to sea. On this day also, the *juruselam* and the *praih laut* collect from the fish-dealers the cash from the week's sale of fish. On Friday evening, or on Saturday evening, the distribution takes place. It occurs either at the house of the *juruselam* or that of the *praih*, whichever is the larger, and the crew assemble, often with wives and some children. The *juruselam* provides betel and smoking materials, and the division

of the cash is done in public. Theoretically, at least, all the crew can follow the process and check its accuracy; in practice most of them seem content to accept what is handed over to them.

The principle of distribution is primarily that of allotting fractions of each day's total to the various producing agents, in accordance with a customary, traditional scheme. This scheme varies in the different *takur* areas of Kelantan and Trengganu, and modifications of it are practised even by different *juruselam* in the same area. Careful comparative study is therefore needed before the investigator can estimate accurately what return is secured to the factors of labour, capital, skill and organization, etc., in a given area, or even a given net. It is possible here only to present the scheme in broad outline for the Perupok area.

The cash is put on the floor in piles, much of it in small denominations, as required by the minuteness of the division. The *juruselam* and the selling agent (*praih*) control the procedure. In the Perupok area, the cash is first divided into two halves. The first half, known as the *bagian praih*, is distributed by the selling agent. He first takes out $\frac{1}{10}$ for the services of his boat and himself. The remaining $\frac{9}{10}$ is then divided equally between all the members of the crew of all the boats, including himself, but excluding the *juruselam*, the captain of the net boat, and any others (probably two or three men) who are partners with the *juruselam* in the net—i.e., who have 'entered the combine' with him. In this division, then, each ordinary crew member receives about $\frac{1}{24}$ of $\frac{9}{10}$ of $\frac{1}{2}$ of $\frac{9}{10}$ of the takings.

The other major half is the *bagian juruselam*. The *juruselam* first takes out $\frac{1}{3}$ of this for his net. This is known as the *bagian dalam*—the 'inside share.' He announces the amount publicly, partly for general information to avoid suspicion of cheating, and partly to let his partners know how much the net has earned to date, so that they can estimate their prospects for future profit-sharing. The tendency now is for some of the Perupok *juruselam* to take $\frac{1}{2}$ share for the net, though those of Pantai Damat still adhere to the tradition $\frac{1}{3}$. The remainder of the division by the *juruselam* is shared between boats and crew. Here, however, the carrier agent and his boat do not participate, since they have received their share earlier. The distribution is frequently

made on the principle that each man of the ordinary crew receives an equal share, and each boat receives a share equal to that of a man. But additional shares are allotted for special functions. Thus the *juruselam*, in addition to a share for his boat, gets also one share for his 'body' (*tuboh*), i.e., as crew member, and one for his 'diving' (*sēlam*), i.e., as special expert in skill and organization. The net boat gets two shares, one as a boat of the group, and one for its special task of daily carrying the net to and from the fishing grounds. If its captain is also its owner, he thus gets three shares—two for the boat and one for his body. But some *juruselam* allot more shares to boats than to men; one scheme commonly followed is to give three shares to the net boat, two to the *prahu sampan* of the *juruselam*, and two each also to each other boat. Thus in this division the number of shares is normally ten or so more than the number of the crew. In this part of the division, therefore, an ordinary crew member gets about $\frac{1}{10}$ of $\frac{2}{3}$ of $\frac{1}{2}$ of $\frac{9}{10}$ of the total takings.

To sum up: of any day's cash takings, the proportions are distributed approximately as follows among the factors of production in aggregate terms:

<i>Unjang</i>	.	.	.	.	10	per cent.
Net	.	.	.	.	15	" "
Boats	.	.	.	.	12½	" "
Man-power	.	.	.	.	62½	" "

Broadly speaking, the items of capital equipment thus receive not quite two-fifths, and the labour a little over three-fifths of the cash reward of production.

On a basis of personal income the proportions are thus:

<i>Juruselam</i> (if owner of net, boat and <i>unjang</i>)	.	.	.	.	28	per cent.
Carrier agent (if boat owner)	.	.	.	.	6¾	" "
Crew member (if boat owner but not net-partner)	.	.	.	.	3½	" "
Simple crew member	.	.	.	.	2¼	" "

The *juruselam*, if provider of major capital, skill and organizing functions, thus gets about 8 times as much as a man who assists with boat and 'body' alone; and about 12 times as much as an ordinary crew member. There is thus justification in the remarks of ordinary *takur* fishermen that "the *juruselam* gets plenty."

The distributive scheme is not exhausted,

however, by this. In the first place, it is complicated by the need to apportion each day's takings separately. Crew and boats receive shares only on days they come out; for each day's takings inquiry has to be made of the boat captains as to how many men they had. Apportionment of a week's takings may thus take four or five hours.

In the second place, there may be subsidiary apportionments after the main distribution. For instance, the carrier agent may not own the boat he runs; he then has to share its receipts with the owner. A principle usually followed here is for the man who runs the boat to give half of its share to the owner, and keep the other half himself; he retains, of course, the share of his 'body' as a crew member.

In the third place, special allowances or increments may have to be made. These arise mainly either from the fact that the net is new, and ropes and other gear have had to be bought; or from the fact that on one or more days a second catch has been made after the carrier boat has left for the shore with the first catch. If ropes have had to be bought, the *juruselam* commonly takes the cost of these bit by bit out of the net's share, and reckons the balance only as return on the net from the point of view of his partners, who thus have to wait longer till they begin to share in the profits. But sometimes a *juruselam* will take a special 'cut' out of the general takings for these accessories, thus reducing subsequent shares of boats and crew all round; this practice was reprobated, however, by one conscientious *juruselam* I knew.

If a second catch is obtained after the carrier boat has left, then it has to be taken by one of the *prahu mēnarek*, i.e., a boat actually engaged with the net. Neither net boat nor the boat of the *juruselam* can carry much fish, being already burdened with net and *unjang* respectively, so any second catches are carried by one of the other three boats, and care is taken to see that they do this in turn. By custom, about half of this second catch is sold for the general benefit, and the other half goes to the crew of that boat,

to sell and divide among themselves as a reward for their special labour. The proceeds which each boat thus divides are known as *ikan bēritang*, or *ikan charo*. But since neither net boat nor the *juruselam*'s boat can participate in this special reward, allowance is made for them. When fish are plentiful the *juruselam* hands over to the net boat a couple of compartments of fish to sell for themselves and keep the proceeds; this is termed *ikan gando*'. They get this bonus roughly about one time in three on which *ikan bēritang* occurs; that is, their receipts are roughly equivalent to those of the other boats. The crew of the boat of the *juruselam* rarely come in for any fish, since the other boats can normally carry it more effectively. But they have shared in the work, so a bonus is arranged for them, in cash, and calculated by reference to the *ikan gando*'; it is usually the same. It is termed *kayu sampan* because of the paddling the crew have to do, in and out of the net. But even here there are extensions of the system. If the fish sold by the net boat bring much less than the receipts of the *ikan bēritang* that day, the *juruselam* makes up the receipts of the former to those of the latter by an additional increment, a *tambok*. This automatically increases also the amount of the *kayu sampan*.

It will be clear that these extensions and complications of the distributive scheme tend to make provision for special functions and extra work, and so level up individual labour and individual income.

Finally, a very important item in the distributive scheme is the reward in kind known as the *makan lau*'. This is the portion of the catch set aside for personal use of the crew, and divided among them on the beach. It is regarded as their right, not merely as a concession from the *juruselam*, and they rely upon this fish as a major item in the daily food of themselves and their families. Frequently, also, a man will sell a portion of his *makan lau*', using the few cents gained to provide himself with coffee and cigarettes in the evening, or (if he is a bachelor) a snack on the beach before he goes home.

PREHISTORIC IRON PRIOR TO THE DISPERSION OF THE HITTITE EMPIRE. *Communicated to the Royal Anthropological Institute, 29 April, 1941, by H. H. Coghlan, F.S.A., A.M.I.Mech.E.*

59 It is the object of this paper to give a sketch of the discovery and development of iron from the earliest known use of that metal until the industry became thoroughly well established in the Near East at approximately 1200 B.C., that is, prior to the spread of the knowledge into Europe of the craft of iron smelting and smithing.

Iron is one of the most widely distributed of the metals, and its ores, in the form of oxides and sulphides, are to be found in nearly every country. Today, the production of iron always means that of iron which has been smelted from the ores. But the archaeologist must consider another source, that of native or natural iron. We have evidence to prove that prehistoric man made use of such iron in a small way, before he gained the knowledge of how to win the metal from its ore.

Native iron occurs in two forms, telluric and meteoric. The only occurrence of iron masses of undoubted telluric origin are those found by Nordenskiöld at Ovikak in Greenland, from which the Eskimo made knives, etc.¹ A very small quantity of native iron may occur disseminated as small grains in some of the basalt formations; but, in workable quantity, only the Greenland iron is known. Meteoric iron covers a much wider field, and meteorites are not so uncommon as has often been supposed. In size they are to be found varying from large lumps of metal, of a ton or more in weight, down to a powder, so that there must have been a large quantity of meteoric iron suitable in size for making small tools, etc. Meteorites are classed in accordance with the proportion of stone and iron which they contain. Siderites consist chiefly or entirely of metallic nickel iron, siderolites are conglomerites of stones embedded in a matrix of metallic iron, aerolites are stone with practically no metallic iron.² In the British Museum collections alone, there are several hundred meteorites of all classes which have fallen within the last hundred years or so; hence it will be realized that if we consider the

whole of the Old World, and the length of time over which meteorites have fallen, there must have been a very large supply of natural iron at the disposal of early man, had he realized its value.

Experiment has shown that most meteorites are malleable, if sufficiently heated, and the archaeological record shows that some of the very early iron objects were forged from meteorites because under analysis the iron exhibited a high nickel-content. The nickel in meteoric iron is usually from seven to fifteen per cent., so that there is no difficulty in distinguishing meteoric from smelted iron. Specimens of iron proved by analysis to be of undoubted meteoric origin are naturally rare, but a number of meteoric iron objects which have been submitted to analyses come within the early period with which we are dealing. The following examples may be cited. The most ancient pieces of meteoric iron are the beads found by Wainwright at Gerzeh in Egypt, about 50 miles south of Cairo.³ They were in two groups, roughly contemporary at S.D. 60-63, thus dating to 3500 B.C., or even earlier. Analysis showed the metal to consist of 92.5 per cent. of iron and 7.5 per cent. of nickel, clearly proving their meteoric origin. Another very early specimen is the single iron object found by Woolley in the first grave at Ur. Here again the composition showed the iron to be of meteoric origin, analysis giving iron 89.1 per cent., nickel 10.9 per cent. Then we have the small piece of iron sent by Lucas to the British Association Sumerian Copper Committee for examination.⁴ This was a minute fragment of a thin blade of iron, inserted into a small silver amulet in the form of a sphinx head, of XI dynasty, found at Deir el Bahri. Micro-analysis showed that iron and nickel were present in the ratio of about 1 to 10, the iron being undoubtedly meteoric.

It is also very probable that at least a part of the iron objects which were found in Tut-ankh-Amen's tomb were made from meteoric iron; for example, the sixteen miniature handled iron tools, the blades of which collectively weighed

¹ Gowland, W.: 'The Metals in Antiquity,' *J.R.A.I.*, 1912, p. 236.

² Wainwright, G. A.: 'Iron in Egypt,' *Journ. Egypt. Arch.*, XVIII, i, ii, 1932, p. 4.

³ Wainwright, G. A.: 'The Coming of Iron,' *Antiquity*, March, 1936.

⁴ Sumerian Copper Committee, 7th Report: *Proc. British Association*, 1936, p. 309.

only four grammes. These examples show that, while rare, the use of meteoric iron forged into simple objects was by no means unknown in the prehistoric periods. Before leaving the subject of meteoric iron it may be of interest to consider if this material can have been used for making the tools with which the fine Egyptian carvings and statues were cut out of very hard stone, such as diorite and black granite. In connexion with the working of these hard stones there are two points of view. Lucas⁵ points out that too much stress is usually laid on the use of chisels, and shows that there is ample evidence for the use of saws and drills, including tubular drills. The marks of tubular drills have been found on a statue of Mycerinus, and on a diorite statue of Chephren. Lucas also quotes other examples where the use of the tubular drill has been observed on hard stone, for example, holes drilled for door sockets and bolt holes.

The saws and drills during the earliest periods must have been made of copper. There seems no reason why, with infinite time and patience at the disposal of the workman, a hole should not be bored in a hard stone by the use of a hollow copper tubular drill fed with emery, although, according to Garland and Bannister,⁶ practical experiments have shown that it is the copper drill which wears down and not the hard stone.

A weak point in the argument in favour of the copper drill is, however, that there is a very decided limit to what can be accomplished in the way of cutting out complicated shapes with the emery drill. The acute angles, and very thin, straight lines, which were cut in the XII dynasty pyramid hieroglyphics could not possibly have been cut out by means of hollow-drilling and hand-grinding. A simple solution, and one which the writer has not so far seen advanced, is that small chisels were available, not made of ordinary iron, but of meteoric iron. There is no reason why such chisels should not have been in existence, since meteoric iron was known and used for the predynastic beads and other early objects previously mentioned. Such nickel-iron tools would have been much superior to ordinary wrought iron for the manufacture of chisels, and

with careful handling would have been capable of cutting hard stone like black granite or diorite. One objection to this theory is that no such chisels have been found; however the fact remains that certain of the hard stone carvings can only be satisfactorily explained by the use of the chisel, and it is certain that wrought iron was not to be found in Egypt at a period corresponding to the earliest carvings and statues in hard stone. That no chisels have been found is probably to be accounted for by the fact that they must have been very rare and costly, also they would have been ground down and used until almost nothing would have been left of them; this, coupled with the fact that most of such very early iron must have passed away into rust, makes it improbable that such small objects would have survived to be found by the archaeologist today.

Smelted Iron.—Now, turning to the wider subject of smelted iron, the ores from which iron is obtained occur in nature chiefly as hematite, magnetite, and iron pyrites. For the production of iron by the primitive direct process, as used by prehistoric man, the oxides of iron, hematite, magnetite, etc., are those which would be the most suitable. Primitive man would not have been able to make use of the deeper-seated sulphide ores, owing to the technical difficulties of removing the sulphur which is found in combination with such ores. The distribution of iron ore in Europe and in the Near East is so plentiful that it may be said that, so far as the raw material is concerned, iron might have been discovered in many countries. Therefore to get an idea of where the cradle of iron working may have been, we must turn to the archaeological record for the known finds of earliest smelted iron.

It has sometimes been thought that the knowledge of iron smelting was early in Egypt. This idea seems to have largely been based on Maspero's finds of iron from Saqqarah, Abusir, Dahshur, etc., and from the famous piece of iron reported by Vyse from the Great Pyramid. From the standpoint of modern archaeology the evidence is not sufficiently satisfactory to warrant these iron objects being considered as authentic in regard to their dating. Actually Egypt was one of the last countries in the Near East to enter the Iron Age, and we may consider smelted iron as gradually becoming known in Egypt during

⁵ Lucas: *Ancient Egyptian Materials and Industries*, London, 1934, p. 65.

⁶ Garland and Bannister: *Ancient Egyptian Metallurgy*, London, 1927, pp. 94-95.

the period of the New Kingdom, probably about 1400 B.C., but iron was not fully established in that country until some time after 1200 or 1100 B.C.

From Tell Asmar and Tall Chagar Bazaar come the earliest known finds of smelted iron. At Tall Chagar Bazaar, in North Syria,⁷ a fragment of iron was discovered in level 5, which cannot be later than 2700 B.C., and which may be as early as 3000 B.C. Dr. Desch reported that the metal was, as might be expected, completely oxidized, and contained 51.36 per cent. of ferric oxide, corresponding with 35.95 per cent. of metallic iron. The remainder would consist of foreign matter derived from the soil. The specimen contained no nickel, and therefore cannot possibly be of meteoric origin. At Tell Asmar, in Mesopotamia, Frankfort found a bronze dagger hilt which held the remains of an iron blade. This dagger formed part of an untouched hoard of objects in a closed pot, which had been walled up between 2800 and 2700 B.C. The iron was analysed by Dr. Desch⁸ who reported that it was of terrestrial origin, and not forged from a meteorite. These two discoveries are of the greatest importance, they are both the result of modern scientific excavation, and may be accepted as evidence that the knowledge how to smelt iron had been obtained somewhere in the Near East as early as approximately 2800 B.C.

Possibly next in order of time comes an occasional working of iron in Anatolia attested after 2500 B.C.⁹ In grave A at Alishar Hoyuk III were some small iron ornaments and an iron needle.

Syria is rich in iron finds, although iron objects appear to be absent in the third millennium. They do not appear in Syria before 1900 B.C., and at first they are entirely decorative.¹⁰ In Byblos in a royal tomb of the time of Amenemhet III (1849-1801) a gold plated iron amulet was found.¹¹ In 1937 a magnificent battle-axe was recovered at Ras Shamra¹²; the blade is of iron and the axe belongs to the fifteenth century, or to the first half of the fourteenth. At Gezer in

central Palestine, two large pieces of iron, measuring about 4 inches in width and 1 inch in thickness, were found together in a water-passage which had been sealed up about 1500 or 1400 B.C.¹³ By the time of the XIX Egyptian dynasty, c. 1300-1200 B.C., iron had become the regular metal at Gerar in southern Palestine.

In Crete the earliest iron is represented by a ring from a Middle Minoan tomb in the Mavro Speleo cemetery; but iron was not used there industrially before 1200 B.C.¹⁴ The ring from the Mavro Speleo cemetery probably came into Crete with traders from Asia Minor.

It is possible that some of the small amulets, etc., may have been made from meteoric iron, but the examples quoted show that there are quite a number of isolated finds of objects made from smelted iron from a very early period down to about 1200 B.C., when the true expansion of iron working seems to have begun.

The Discovery.—As has just been shown, the discovery, how to smelt iron from its ores, was made at a very early date, but it is not a simple matter to explain how the discovery was made. It has been asserted that iron is one of the easiest metals to smelt from the ores, and that the accidental discovery of iron may have been due to a lump of some suitable ore, such as hæmatite, falling into a camp fire, and thus becoming reduced by the heat of the fire. Examination of what is involved in the smelting process will indicate that the matter is not so simple.

For instance, in the reduction of an oxide ore, the main consideration in the primitive smelting process is simply to rob the ore of its oxygen and so to obtain metallic iron. The fuel used by primitive man would have been charcoal, and, fortunately for the prehistoric metallurgist, charcoal is a very suitable fuel for the reduction process. In a simple reducing furnace, the carbon of the charcoal burns to carbon monoxide and this gas takes oxygen from the ore to form carbon dioxide. It may be noted that the taller the furnace (naturally within reasonable limits) the more efficient it becomes for the smelting process, since a high furnace gives the carbon monoxide gas a better chance to act upon the ore, and it will thus be seen that the success of the smelting

⁷ *Iraq*, iii, 1936, p. 11.

⁸ Sumerian Copper Committee, 5th Report: *Proc. British Association*, 1933, p. 302.

⁹ Przeworski: *Die Metallindustrie Anatoliens*, Leiden, 1939, p. 145.

¹⁰ *Ibid.*, p. 141.

¹¹ *Syria*, III, 1922, p. 286, fig. 6.

¹² *Antiquaries Journal*, xx, 1940, p. 393.

¹³ Macalister, R. A. S.: *Excavation of Gezer*, ii, pp. 269-270.

¹⁴ Childe, V. G.: *Dawn of European Civilisation*, London, 1939, p. 28.

operation largely depends on the exclusion of oxygen from the ore. If a lump of ore is allowed to drop into a camp fire, or is used in the construction of a protecting wall to such a fire, it is almost certain that the ore will not be effectively screened from the oxidizing influence of the atmosphere, in other words, the ore is much more likely to be in an oxidizing zone than in a reducing one.

To examine the camp-fire theory,¹⁵ the writer carried out a series of practical experiments. In these tests a number of charcoal fires were made to simulate camp fires, and pieces of iron ore such as hæmatite, limonite, etc., were carefully embedded in the heart of the fire. In no instance, however, no matter how large or hot the fire made, was a satisfactory reduction of the ore obtained. In most cases it was found that the ore had been merely roasted, although once or twice, when almost a complete smother-furnace had been made, it was found that the ore had been converted into a strange cinder-like form which powdered to dust when lightly hammered. Nothing in any way resembling a sponge iron was obtained, or anything which could have been recognized by early man as having any connexion with metal. Similar experiments, carried out in connexion with primitive copper-smelting, had proved that the temperature necessary to smelt an iron ore (approximately 700/800° C.) could be obtained in a well-constructed charcoal furnace. It was thus considered that the failure to obtain iron must have been due to the ore having been in an oxidizing atmosphere, and was to be accounted for by lack of furnace-height.

This view is supported by a statement made by Rickard in a recent paper¹⁶ who says: "The iron ochres, which are the minerals limonite, goethite and hæmatite, could be a source of metal if smelted in a hot charcoal fire within a closed vessel, but, as has been suggested previously, the accidental product from such a reduction in the open air would be so strange as to be unrecognizable as metal to the early metallurgist, and so imperfect as to be of no use to the primitive artificer." This is exactly what the writer found as a result of his attempts to smelt iron ore in an open charcoal fire. Thus

it appears that a useful metal would not have been produced until:—

- (a) it happened that the ore was sufficiently protected against rapid oxidization due to contact with an excess of air:
- (b) the temperature of the furnace was sufficient to enable the metal to run together so as to form a coherent lump:
- (c) some form of furnace came into use with or without artificial draught.

It is quite possible to smelt iron ore without the use of an artificial-draught furnace provided that sufficient furnace-height is available. An actual example of such smelting is given by Crawhall¹⁷ who describes smelting by the Jur tribe in the Sudan. Here the furnace was about five feet in height, and the air required for combustion was admitted through four clay tubes at the bottom of the furnace; no bellows or other means of forcing the draught was used. Large furnaces of the 'northern' or 'Jura' type were of the prevailing wind-passage class and depended upon their very considerable height, as well as upon the wind-passage, for their operation.

It may be stressed here that all the primitive iron of the period with which we are dealing was wrought iron, as distinct from our modern iron which is frequently melted and cast. There could have been no question of smelting the wrought iron, after it had been produced by the founder, since the temperature required to melt wrought iron is approximately 1530 degrees Centigrade, considerably above anything within the temperature-range of the early furnaces. When furnace technique had sufficiently advanced, and high furnaces with artificial draught came into use, it is possible that a little liquid iron may have been accidentally produced. However, even if a little cast-iron was accidentally so obtained, it would have been useless to the early metallurgist since, without modern tools, he would have been quite unable to make use of such a non-malleable material.

The point is well illustrated by the care taken in working the large and high furnaces which were used by some of the African natives until quite recently; the air blast was carefully regulated in order not to allow the furnace to become over-

¹⁵ Coghlan, H. H.: 'Some Experiments on the Origin of Early Copper,' MAN, 1939, 219.

¹⁶ Rickard: 'Primitive Smelting of Iron,' Amer. Journ. Archaeology, xlv, 1939, p. 86.

¹⁷ Crawhall, T. C.: 'Iron-working in the Sudan,' MAN, 1933, 48.

heated, and so to avoid the possibility of any liquid iron collecting in the hearth. Normally, and certainly in all small prehistoric furnaces, the metal never collects in a fluid state in the bottom of the furnace.

This short account of the technique of prehistoric iron smelting indicates that to produce, or indeed to discover iron, we must be in possession of a rudimentary furnace of some kind, and we must be able to explain how some suitable ore could have got into the furnace so as accidentally to give the first iron.

Red ochre or red oxide of iron is a very widely distributed mineral, and is also a very conspicuous one. We have evidence that it attracted the attention of man as early as the Upper Palaeolithic Age, and in subsequent times red ochre was frequently associated with human burials. In most parts of Asia large deposits are to be found, and extend to the eastern side of the Amanus Mountains and the Giadur Dag. The former are the western boundary of the Tall Halaf cultural region, and from very early times the Tall Halaf potters were in the habit of using red and yellow ochres for making the designs on their polychrome wares. There can, therefore, be no doubt that these people were perfectly familiar with red ochre.

We have evidence that the Tall Halaf wares were baked at very high temperatures ranging from about 1000° C. to 1200° C.¹⁸ Actual pottery kilns have been uncovered by Mallowan at Arpachiyah,¹⁹ where circular furnaces with a domed roof and central pillar were discovered in the levels of the developed Tall Halaf and Samarra wares. Large and elaborate furnaces of early date have also been found at Uruk, and in the second period at Susa. In these developed furnaces with closed baking-chambers, sometimes of reverberatory type, the admission of air would have been under control and the conditions could have been made either reducing or oxidizing at will, to suit the class of pottery which it was desired to bake.

Any lumps of red or yellow ochre which might have accidentally got into, or been left, in the kiln of these high temperature furnaces would be reduced to metallic iron. When this happened a number of times, it would probably occur to

some one to try to find out what the peculiar, spongy-looking substance was. This would be done by using the technique with which any copper-working people must have been familiar—that used in the shaping of native (or indeed of smelted) copper. The small piece of sponge iron would be heated and hammered on a heavy, flat stone, the process being repeated a number of times. It would thus be discovered that a useful material, probably regarded as a kind of copper, could be produced. So the discovery was made that the new material could be obtained by heating a quantity of red or yellow ochre in a closed type of furnace under suitable firing conditions.

Rickard has suggested that the discovery of iron smelting may have followed the finding of a patch of rich iron oxide in the outcrop of a copper lode, and the inadvertent smelting of such iron oxide by people engaged in copper smelting.²⁰ While there is no technical reason why this should not have happened, it does not appear to be very likely. At the period at which the first smelted iron is recorded it is probable that the only copper ores worked were the green and blue carbonates, and it is unlikely that iron oxide would have been mistaken for either of these.

From our brief survey of the recorded 'early' iron we noticed that smelted iron had become known by 2700 B.C. It may be wondered why the iron industry, instead of remaining in a condition of semi-inertia, did not develop further until the dawn of the true Iron Age in the Near East, which came with the Hittite dispersion at approximately 1200 B.C. Two reasons may be put forward for this.

First, the difficulty in working iron without proper tools, and particularly without smiths' tongs, must be allowed for, and these tools were not yet available. Without them the process of manufacturing and shaping the iron would have been laborious in the extreme, and the operation of hammering the iron in order to close the texture of the metal and to expel any included slag, etc., would probably have been incompletely carried out. Under such conditions only very small knife or dagger blades could have been made.

The second and perhaps more important reason

¹⁸ Speiser: 'Excavations at Tepe Gawra,' *Annual Amer. Sch. of Or. Research*, ix, 1927-28, p. 50.

¹⁹ Mallowan: *Iraq*, vol. II, i, 1935, pl. xxi (d).

²⁰ Rickard: 'Primitive Smelting of Iron,' *Amer. Journ. Archaeology*, vol. XLIV, 1939, p. 86.

was that iron made by the primitive process which we have described is soft, and of little value in the manufacture of cutting tools. Further, owing to the very low carbon content of the wrought iron, it was impossible to harden or temper it to take a good cutting-edge. As long as the earliest iron blades had only soft copper tools to compete with, they would have had some commercial value, for at the time when smelted iron first appears, the peoples of Ur and Tepe Giyan seem to have held the monopoly of bronze. When, towards the middle of the third millennium, the bronze alloy came into more general use, the infant industry perished. That it was almost certain to do so is clear from the figures for the relative hardness of iron and bronze; these show clearly that a good 10 per cent. tin bronze suitably work-hardened is decidedly superior to a poor wrought iron. An interesting illustration indicating that the properties of the two metals were, at least in some cases, fully understood, is the dagger from Yorgan Tepe²¹ belonging to the Hurrian period, 1600-1375 B.C. In this implement the blade is of bronze, but the handle is made of iron.

Early in the third millennium the peoples of Asia Minor also made use of the numerous deposits of red ochre which occur in that land, they covered their pottery with the ochre before baking it in the kiln. About 2400 B.C., invaders armed with large perforated axe-hammers of stone arrived in the north-west of that region and took possession of the 'second city' of Troy. Troy was destroyed about a century later, apparently by a fresh invasion of the same people. These then moved on to the grassy plains of the interior surrounding the Upper Halys basin, and formed themselves into a ruling aristocracy over the native population, thus forming the basis of the Hittite Empire.²²

It is not certain whether the natives already knew how to make small knives or daggers of wrought iron, but it is certain that, under the influence of the heavy-stone-axe people, the iron industry expanded considerably. Better knowledge of the technique of smelting was arrived at, and possibly the smelter was no longer limited exclusively to red ochre as his source of raw

material. Very important too would be the improvement in the quality of the iron due to the use of a heavy hammer. The advantages of frequently heating and hammering a crude prehistoric iron are that not only does the hammering close the texture of the metal and remove the larger part of the silica, but the repeated heating to redness in contact with hot charcoal causes the metal to absorb carbon, and with an increase of carbon the iron acquires the capability of being hardened. It is the difference in the carbon-content which represents the most important difference between wrought iron and steel. Iron only became a thoroughly serviceable metal from which to make weapons after the discovery of carburization, that is, the addition of a little extra carbon (0.25 per cent. and upwards) to the primitive wrought-iron by means of heavy hammering and heating in contact with charcoal, until the iron acquires some of the properties of a mild steel.

Although perhaps not directly connected with the iron itself, it is an interesting problem to consider how the Hittite, or pre-Hittite, smith managed to forge his iron without the use of smith's tongs. At first, doubtless, the small lump of iron which it was desired to forge into shape would simply have been pulled and pushed about upon the large flat stone which must have served as an anvil, by the use of two damp green sticks. It cannot be said that the iron was held on the anvil. Probably next came the idea of using a long green withy bent round in the centre, which would in fact be a tongs of the most crude form. This development would have the advantage over two sticks in that it would not be required to hold together the two loose pieces while at the same time guiding the work upon the anvil stone. As tongs these implements must have been most inefficient for the wood must have charred away very quickly and the holding power to guide the work on the anvil must have been almost nil.

Strange as it may seem the practice of using the green sticks to act as tongs has survived, at least until a few years ago, in primitive iron working as practised by some of the African natives of the Southern Sudan.²³

At some later stage, when the technique of iron working was improving, the green withy

²¹ Przeworski, S.: *Die Metallindustrie Anatoliens in der Zeit 1500-700 v. Chr.*, Leiden, 1939, p. 140.

²² Private communication from H. J. E. Peake, M.A., F.S.A.

²³ Garland and Bannister: *Ancient Egyptian Metallurgy*, London, 1927, p. 107.

must have been replaced by some form of copper or iron tongs, which at first would simply have been two lengths of iron flattened at one end to give a better grip of the work on the anvil and fastened in a rude manner at the other end to form a hinge. The next development would probably be one long rod bent into the form of hair pin and rather flattened at the bend. Such tongs, in form like the modern sugar tongs, may even eventually have been fitted with a ring which could be slipped down the rods to enable the work to be securely gripped without effort on the part of the smith; they would closely resemble a tool which is used in some forging operations today, and they would have made possible a great advance in iron forging.

How early the invention of the tongs was made is uncertain. Tweezers are tongs on a miniature scale, and it seems logical to think that the tongs may have developed from the tweezers, of the antiquity of which there is no doubt. Perhaps the earliest example is that recorded by Petrie²⁴ of a copper tweezers found in the tomb of Semerket, one of the last kings of the first dynasty, who reigned about 3200 B.C. These tweezers had pointed ends. The earliest known examples with flat ends were found by Seager at Mochlos in Crete, and date from the Early Minoan II period, 2800-2400 B.C. Such flat-ended tweezers were not uncommon in Egypt under the XII dynasty. A very good example of a flat-ended tweezers has recently been added to the collections of the Newbury Museum, a beautifully made tweezers of copper and silver alloy, and I am informed by the Honorary Curator, Mr. H. J. E. Peake, M.A., F.S.A., that this example comes from the Pan graves and may approximately be dated to 1900 B.C. Another Egyptian tweezers comes from Thebes, XII dynasty; the material in this case appears to be bronze. Small bronze tweezers made on the principle of the sugar-tongs are also widely distributed over southern Europe in the late bronze age.

No remains of hinged tongs have been recovered from a Hittite site, but few of these sites have been fully explored. The first known hinged tongs comes from Roman times; but taking the great antiquity of the tweezers into consideration, it would seem reasonable to suppose that the smith's

tongs had been developed by the time of the late Hittite iron workers, and that, previous to this, copper-smiths must have been in possession of some reasonably efficient form of tongs.

It is difficult to form an opinion on how soon the Hittites developed the iron industry in their regions. If one can trust the translation and dating of a tablet from Boghaz-Keui, the Hittite capital, King Anittash, said to have been reigning about 1925 B.C., ordered Purushkhanda to supply him with a throne and sceptre made of iron. Even if it is considered that the evidence from the tablet is not conclusive, it appears that the iron industry was established not many centuries later, since a dagger with an iron blade and gold handle, and of foreign workmanship, was found in the tomb of Tut-ankh-Amen and therefore must have been made before 1350 B.C. This dagger has been thought to be of Hittite workmanship, for, less than a century later, that is, between 1272 and 1255 B.C., Rameses II asked the Hittite king for a further supply. The king's reply has been found at Boghaz-Keui in which he refuses to send any further iron, saying, "There is no good iron in my 'sealed' house 'in Kissuwadna.'" It thus seems probable that the Hittites were anxious to keep secret their discovery of iron and the iron industry. They were apparently successful in doing so, for during all this time they appear to have retained the monopoly in iron goods.

Shortly before 1200 B.C., the Hittite Empire fell and the iron workers were dispersed. Some migrated down the Syrian coast to Palestine and Egypt, some to the Tall Halaf region of North Syria, while others ultimately reached Thrace. The evidence shows that after the Hittite dispersion iron became much more general and the quantity available greatly increased. About 1000 B.C., the craft of the iron smelter and smith reached Europe.

From the foregoing notes it will be gathered that the art of metallurgy was less advanced by the production of metallic iron, which had a degree of hardness inferior to that of bronze, than by the manufacture of some form of iron comparable to mild steel, from which tools could be made which would keep a sharper edge than was possible with the alloy. The production of such a metal, however, necessitated the use of tongs and the heavy sledge-hammer.

²⁴ Petrie, Sir W. M. F.: *Tools and Weapons*, London, 1917, p. 51.

NOTE CONCERNING THE DISTRIBUTION OF THE SICKLE-SWORD. By P. Lenk-Chevitch, A.I.Lv. Illustrated.

60 Among the great variety of cutting weapons existing in the Old World, from prehistoric times to our own, there is a group of knives and swords which forms a singular class.

They are variously called 'sickle-swords,' 'bill-hook,' 'pruning knife,' 'falchion.' They are characterized by a strongly curved blade which in the most typical cases assumes a semi-circular form. The cutting edge is generally on the concave side (figs. 1 and 11).

Although widely distributed in time and space, as we shall show, this class of weapons has been considered as exceptional and singular in every country where it has been met with. Sir W. M. Flinders Petrie says¹ "in Egypt there is a 'sickle-like weapon, which seems without parallel elsewhere" (it is reproduced in fig. 9), and G. Gros-Heuzey,² "ce tombeau se distingue par deux armes de cuivre d'une forme très antique et tout à fait chaldéenne" (figs. 4 and 22).

We can explain the archaic and primitive character of this sword as the first step in the evolution of an agricultural tool—the sickle—into a weapon.

The picturesque form and the curious position of the edge makes the weapon inefficient and inconvenient to handle. It was superseded everywhere by arms with straight or considerably less curved blades with the cutting edge on the convex side.

The edge on the concave side has survived in curved swords and knives of Nepal (*kukri*), the Malay Peninsula, Egypt (*khopesh*), Abyssinia, in the Albanian *yataghan*, in Azande tribes (N. Belgian Congo) (fig. 23), and in several Oriental countries.

The sickle-sword in pure form remains at present only in places where evolution and contact with foreign influences have had little effect on material culture. They are the regions surrounding the sources of the Nile and the Great Lakes (Ruanda-Urundi, Mangbetu tribes in Eastern Congo, Eastern Sudan) and among the aboriginal non-Aryan populations of Southern India.

This form of sword, owing to its archaic origin, has acquired a special character among certain peoples, where it is no longer in everyday use, e.g., in Nepal (fig. 16), where it is used for sacrifices, and in Dahomey (fig. 33), where it is employed for decapitations. The wearing of such a knife (fig. 34) among the Mangbetu was a sign of distinction. This could be compared to the use of old-fashioned flint knives in the sacrifice of pigs in Ancient Rome.

We shall first consider the distribution of the pure form of the sickle-sword.

Chaldea.—The earliest known specimens of sickle-swords come from Chaldea and date back to 4000 B.C. (figs. 4, 6, 22).² They are made of copper. Human figures holding these weapons in their hand often appear on Chaldaean pottery.³ These knives are identical in shape with fig. 3.

Assyria.—The sickle-sword is well known to the Assyrians. The king Ashur-nazir-pal II (883–859 B.C.) is represented in a statue⁴ holding a sickle-sword in his hand. This sword is reproduced in fig. 12. Another example is represented in fig. 14. In this case the knife was labelled as a 'razor'.⁵

Syria.—Westward, the sickle-sword is found at Byblos (Syria), fig. 3,⁶ and in Palestine in Sichem, fig. 5.⁶ In Cyprus it is known under the name of 'novacula,' fig. 7.⁷ *Italy*.—In Lucania and Etruria, the same form has been found.

Egypt.—The 'falchion-sword' is mentioned by Sir W. M. Flinders Petrie as existing since the eighteenth dynasty (about 1580 B.C.).⁸ The Egyptian 'sickle-sword' of the Roman period (figs. 10 and 13)⁹ is similar in shape (except in the tang) to those found at present among the natives of Ruanda-Urundi in the Belgian Congo (figs. 1 and 11).

The close relation between the Egyptian

¹ W. M. Flinders Petrie, *Tools and Weapons of Egypt*, London, 1917, p. 27.

² G. Gros-Heuzey, *Nouvelles fouilles de Tello*, Paris, 1910, p. 128.

³ G. Gros-Heuzey, *Nouvelles fouilles de Tello*, Paris, 1910, pp. 137, 243.

⁴ British Museum, *Guide to the Babylonian and Assyrian Antiquities*, 1922, Pl. XVII.

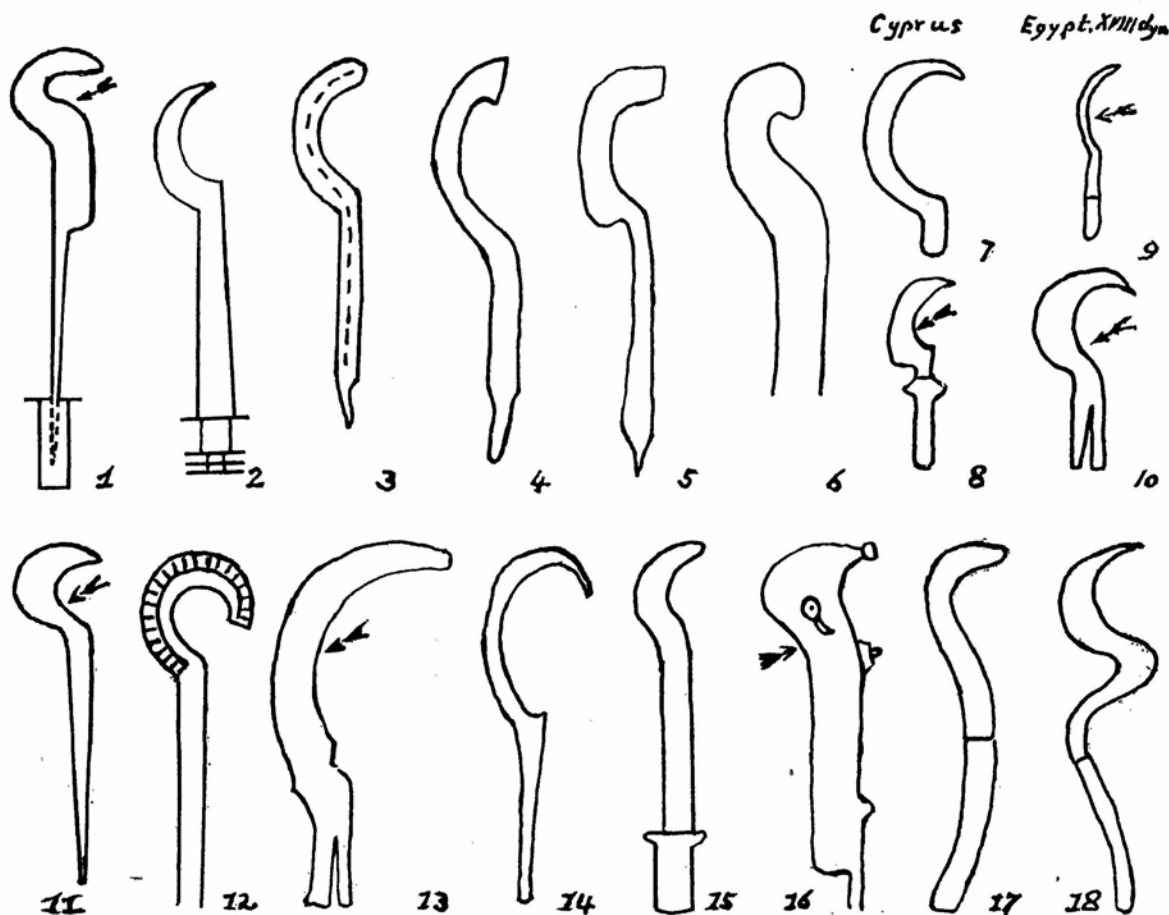
⁵ Burton, R., *The Book of the Sword*, London, 1884, p. 203.

⁶ Bonnet, *Die Waffen der Völker des Alten Orients*, p. 86.

⁷ Burton, R., l.c., p. 189.

⁸ W. M. Flinders Petrie, l.c., Pl. XXXII, fig. 23.

⁹ W. M. Flinders Petrie, l.c., Pl. LVII, fig. 52.



1. RUANDA-URUNDI.
2. SOUTH INDIA.
3. BYBLOS, SYRIA.
4. CHALDAEA.
5. SICHEM, PALESTINE.
6. CHALDAEA.

7. CYPRUS.
8. EGYPT (*Khopesh*).
9. EGYPT (XVIII DYN.).
10. EGYPT (*Roman Age*).
11. RUANDA-URUNDI.
12. ASSYRIA.

13. EGYPT (*Roman Age*).
14. ASSYRIA.
15. EASTERN SUDAN.
16. NEPAL.
17. BAKONJO.
18. KORDOFAN.

khopesh and the sickle-sword becomes apparent by comparison of figs. 8, 9, 24, 25, 36. Both have the cutting edge on the concave side, both are of Mesopotamian origin. The *khopesh* appeared in Mesopotamia about 1300 B.C.¹⁰

Europe.—In much modified form the sickle-sword is met in Europe. We can note the particular form of the sword from Adelsberg (fig. 20).¹¹ In Roman times, the sickle-knife is known in Italy, Germany, Dalmatia, France.

Africa.—*Abyssinia*. Here the sickle-sword (*shotel*) took the form of an enormous sickle, with the cutting edge on the inner side (fig. 21).

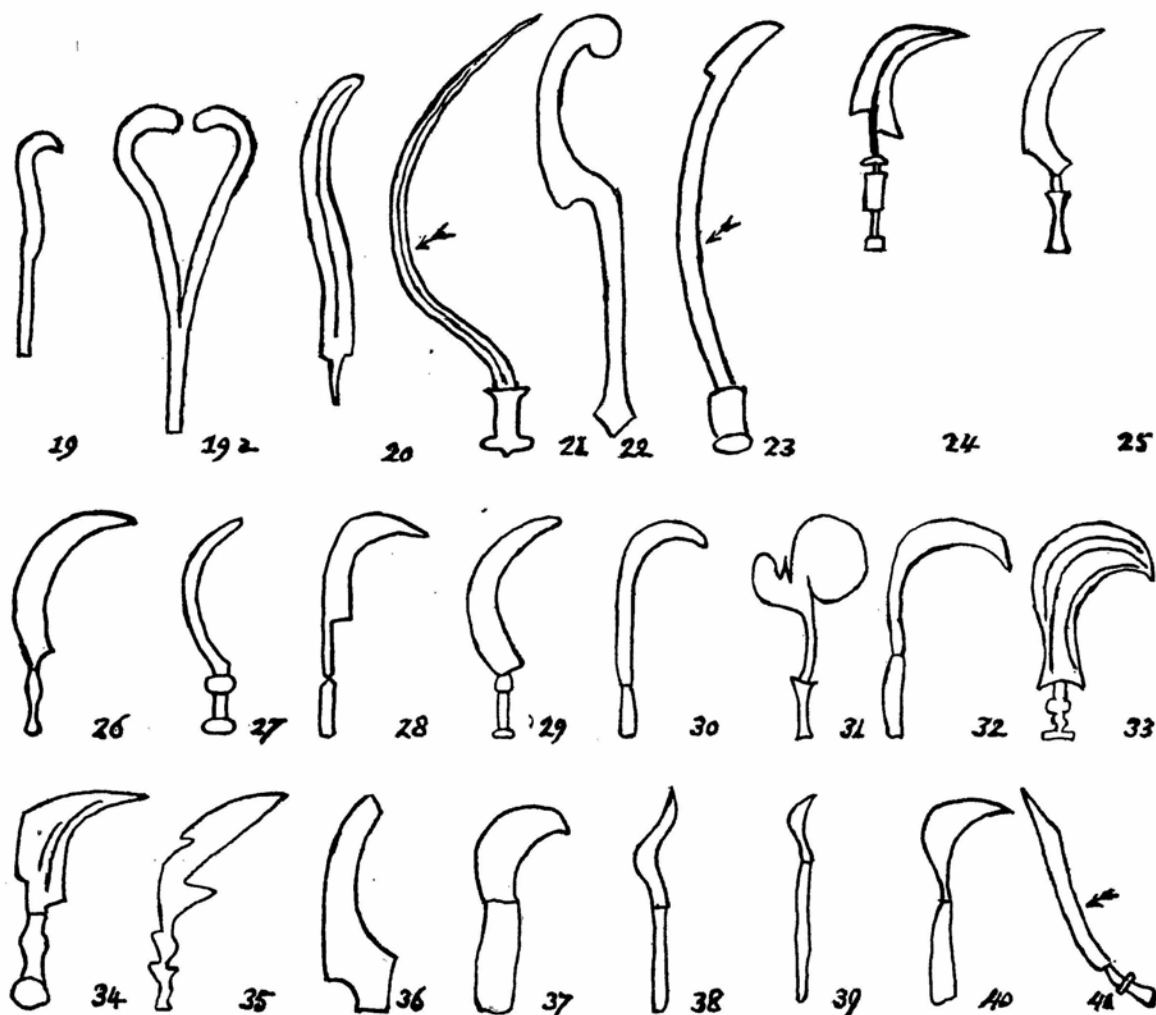
Only in modern times the edge appears on both sides. In the opinion of the Abyssinians themselves, the difficulty of wielding such a sword was so great that they preferred foreign swords.

Nile-Congo Region.—The sickle-sword is well represented in the present time among the natives of Ruanda-Urundi and in a lesser degree in the Eastern Sudan (fig. 15), and among the Mangbetu and Azande tribes of the Eastern Congo (fig. 34).

Old Egyptian influence on the form of native implements in the neighbourhood of the Nile has been noticed by several anthropologists. This applies to the influence of the *khopesh* on Mangbetu knives. We can add the sickle-knife of Ruanda-Urundi, whose similarity with the

¹⁰ W. M. Flinders Petrie, *l.c.*, p. 26.

¹¹ *Mitteilungen Anthropol. Ges. Wien.*, 1888.



19. SOUTH INDIA.
19a. MANGBETU, CONGO.
20. ADELSBERG.
21. ABYSSINIA.
22. CHALDAEA.
23. AZANDE, CONGO.
24-5. EGYPT (*Khopesh*).

26. SANGA.
27. YANGERE.
28-9. NORTH CONGO.
30. MUSGU, L. TCHAD.
31. MANGWENDI.
32. BAKONJO.
33. DAHOMEY.

34. MANGBETU.
35. SANGA.
36. EGYPT (*Khopesh*).
37. EGYPT.
38-40. SOUTH INDIA.
41. NEPAL (*Kukri*).

analogous implement of Roman Egypt is surprising (cf. 1, 11, 10). The form of the knife of the Yangere tribe in the Cameroons is similar to the falchion sword of Egypt (fig. 9). Similar knives are found among the natives of the Eastern Sudan (fig. 15).

In fig. 18 a particular form of throwing-knife from Kordofan (Sudan) is reproduced, in which we first notice the deforming influences of Africa. These distortions increase gradually as we

progress in the African continent: figs. 19a and 31 are typical.

Other examples of native weapons influenced by the sickle-sword are reproduced in figs. 26, 28, 29, 30, 32, 33, 35. They come from the tribes of the Sanga R. region (S. Cameroons), N. Congo, the Musgu tribe (Tchad territory), the Mogwandi tribe (N. Belgian Congo), Bakonjo tribe (Lake Albert).

The influence of the sickle-sword is conspicuous

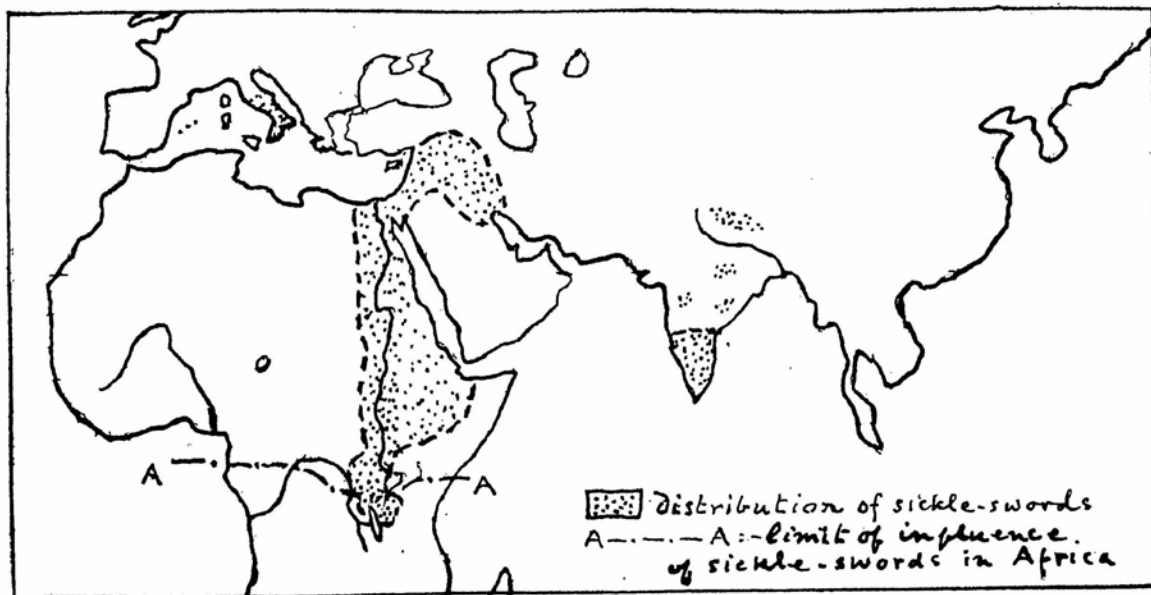


FIG. 43. DISTRIBUTION OF SICKLE-SWORDS, AND OF THEIR INFLUENCE.

in all the countries situated to the North of the line drawn from the Cameroons to Lake Victoria. South of this area the sickle-like curvature in the blade disappears.

India.—Sickle knives of the early iron age were discovered in prehistoric tombs near Salem (S. India). The knife is represented in fig. 19.¹² It is $21\frac{1}{4}$ inches long.

The sickle-knife is found at the present time among the Dravidians of Southern India. A pure form of a sickle-sword from the Malabar coast is reproduced in fig. 2. Several variants exist in Vizianagaram (figs. 38, 39) and in Coorg (fig. 30).¹³ In Nepal it is employed only as a sacrificial sword. It bears an engraved eye on the blade.

It is noteworthy that the *kukri* knife (fig. 41) of the Gurkhas, which is so similar to the old Egyptian *khopesh*, has survived in Netap together with the archaic sickle-sword.

Other localities where sickle-swords or knives were found are :

*Egypt.*⁵—On the reliefs of the tomb of Ramses IV

at Thebes (M. Lefebure. *Les hypogées royaux de Thèbes* 1889, Vol. III, fasc. 2, Pl. XV). It is reproduced on fig. 42.

*Asia Minor.*⁵—On the bas-relief of Hilar (Ellsworth Huntington, *Records of the Past*, May, 1903, p. 139). It is similar to fig. 1.

*W. Africa.*⁵—On the gold weights of Ashanti (Pitt-Rivers Museum, Oxford). At Thebes similar knives to those represented on this gold weight are found (fig. 42).

To conclude this note, we can say that the sickle-sword was probably born in Chaldaea, and attained a wide distribution, reaching India, the Mediterranean and Africa.

The map (fig. 43) shows the distribution of the sickle-sword, together with the area of its indirect influence.



FIG. 42.

Figs. 2, 15, 16, 19a, 21 are drawn from the originals in the Pitt-Rivers Museum, Oxford.

Figs. 1, 11 from the originals in the possession of the author.

Fig. 8, W. M. Flinders Petrie, *l.c.*, Pl. XXVII, figs. 197.

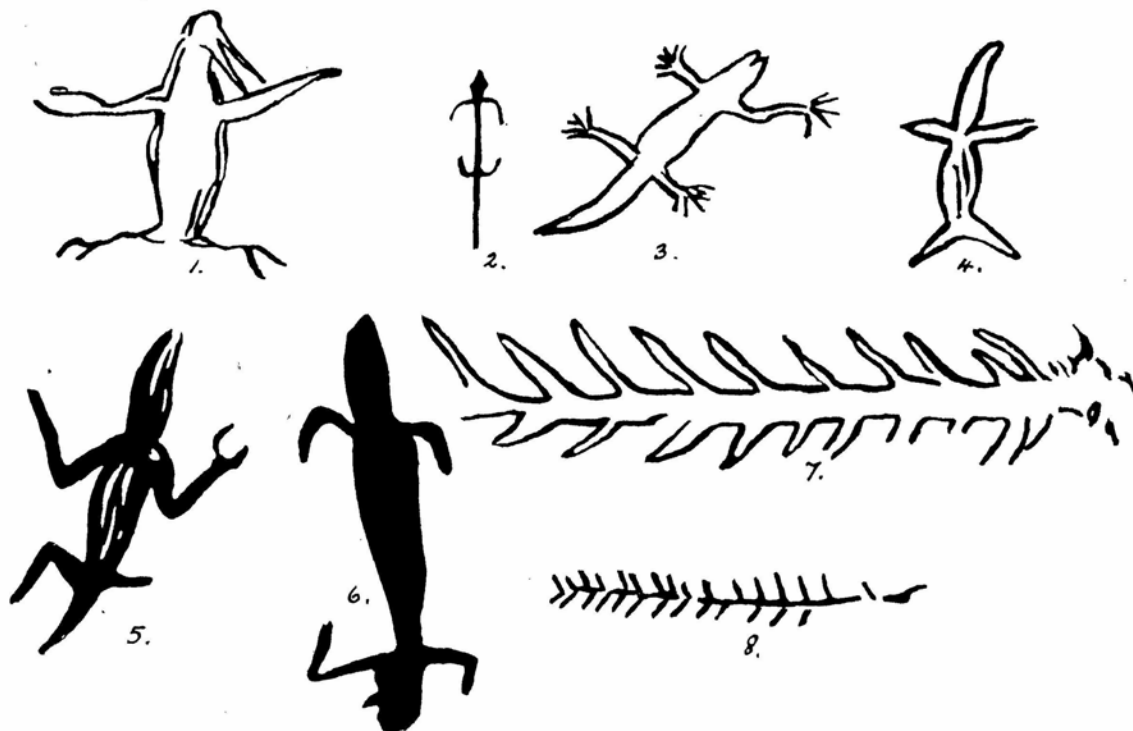
Fig. 18, F. Ratzel, *Völkerkunde*, 1895, p. 424.

Fig. 34, J. Czekanowski, *Forschungen im Nil-Kongo Gebiet*, II, p. 144.

Fig. 17, J. Czekanowski, *Forschungen im Nil-Kongo Gebiet*, II, p. 366.

¹² Foote, R., "The Foote collection of Indian prehistoric and proto-historic antiquities," 1916, Pl. 51, fig. 192B.

¹³ Indian Museum, "Handbook of the Indian Arms," London, 1880, p. 79, figs. 60, 61, 98.



THE PICTOGRAPHIC ART OF THE ANCIENT MAORI OF NEW ZEALAND. By H. Barraclough Fell, *Shircliffe Fellow, University of New Zealand.* Illustrated.

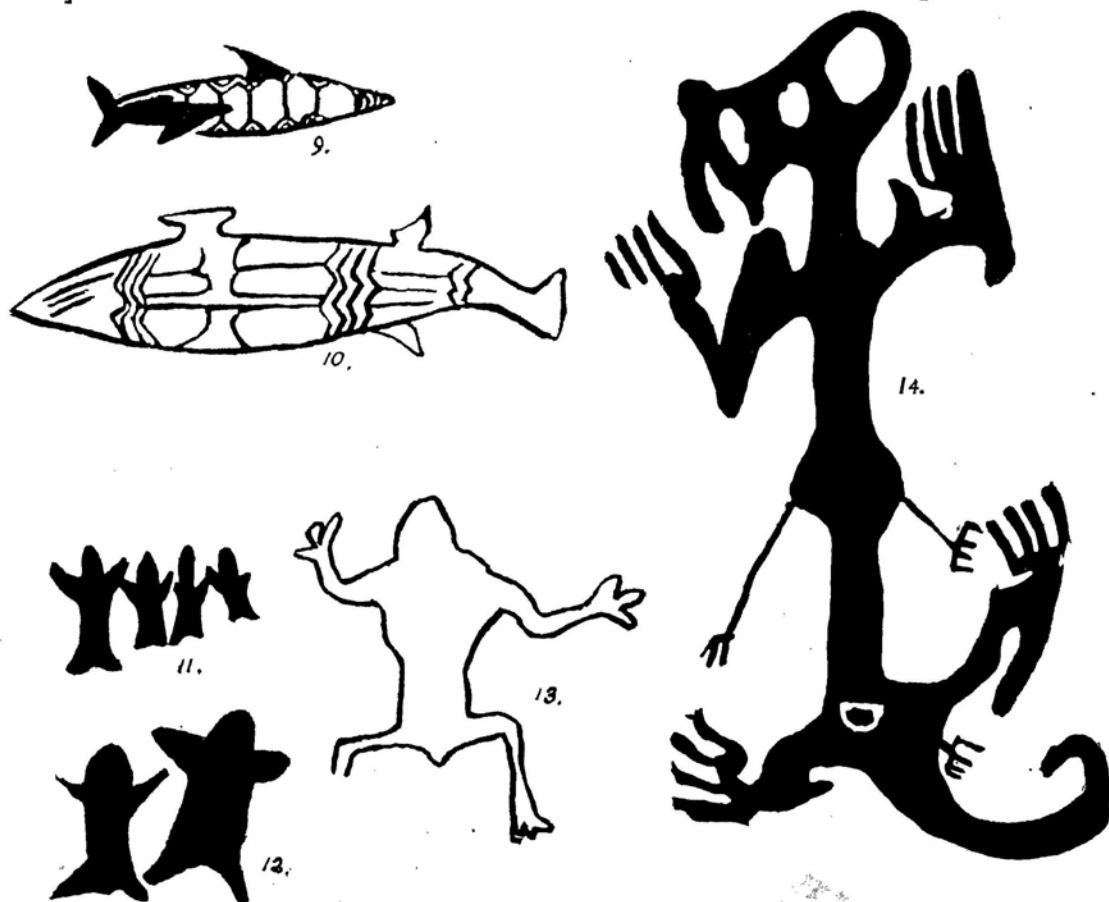
61 At the time when the white man began to settle in New Zealand, about one hundred years ago, the Maoris were in a stage of culture which was essentially neolithic. Such remains as we possess of their ancestors indicate that this was the condition right from the beginnings of Maori occupation of the country in the fourteenth century. Consequently we have a special interest in the art of the race in view of its value for purposes of comparison with the stone age peoples of Europe. Maori art was essentially stylized and decorative, and, like most primitive peoples, closely related to religion. The great majority of artistic work was concerned with wood carving: gods, decorative panels and wood-work for the superior type of houses, canoe embellishments, decoration of implements, and the like. In all these, traditional patterns were employed, the greater part of them being composed of various combinations of gentle and pleasing curves, combined with figures of gods and heroes. The latter were invariably represented in grotesque form, and this applies also to the small *heitiki* of greenstone worn about the neck.

Pictographic art occupied but little of the Maori's artistic endeavours, and has thus come to be almost completely ignored. From time to time, however, odd examples of pictographs have come to light, and it is the purpose of this article to bring together under one head some typical specimens for consideration.

We seek in vain in New Zealand for anything approaching the wonderful cave art of the Magdalenian hunters of Europe. Instead we find occasional rock or cave paintings of a much cruder sort, confined for the most part to representations—more or less recognizable—of animals or objects familiar in the daily life or in the legends of the artists who drew them. With certain exceptions to be considered below, there is no attempt at composition.

The pictographs of New Zealand fall into four main groups which may be set out as follows:—

1. Purely conventional designs, similar to the motives employed in carving and other decorative art.
2. Fantastic representations—presumably gods or spirits.



3. Isolated pictures of animals or men, clearly recognizable as such, but showing no attempt at orderly arrangement or composition.

4. Much rarer pictures showing events in the life of the artists, or depicting the adventures of the legendary heroes. These latter, unlike the others, display some imagination and tell a vivid story.

The most important discovery of pictographic art in New Zealand was made by the settlers in the Opihi River district of South Canterbury. Hutton visited the site in 1897, and his sketches were published in the *Transactions of the New Zealand Institute* for that year. Some of the better examples of these are reproduced here. Other discoveries have been made in South Island, but none approach in importance those described by Hutton, except that of Blackler's Cave, also in South Canterbury.

Examples of the first category listed above are numerous and not of great interest. They include spirals, triangular designs, zig-zag patterns, etc.

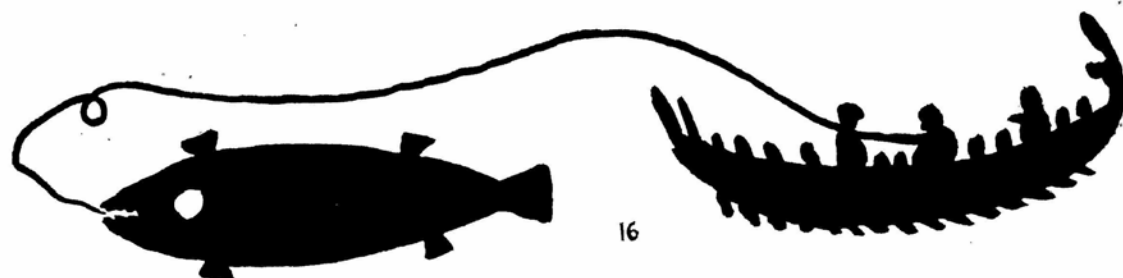
Of the second group, there are several examples in the Opihi Caves. They are generally anthropomorphic figures with numerous limbs and a tail. A particularly ornate example is illustrated in fig. 14. The prong-like appearance of the hands and feet is a feature characteristic of the wood carvings of Maori gods. Other examples in red ochre agree in possessing supernumerary limbs with or without digits.

There are many more examples of the third category—pictures of animals or men. The penguin (fig. 1) is a particularly good representation. It appears to be the King Penguin, a species whose bones have been recorded from early Maori camps. Lizards occupy a prominent place in the Opihi Caves paintings (figs. 2-6). This fact may perhaps be correlated with the superstitious awe in which they were held by the Maori. It was believed that if one perchance looked into the eyes of one of these animals, death would soon follow.

The two figures shown in figs. 7, 8, appear to be



THE BLACKLER'S CAVE PAINTING—REPRESENTING A PREHISTORIC MOA-HUNT AS SEEN BY A CONTEMPORARY ARTIST
—*Otago Museum.*



THE FISHING OF MAUI—FROM AN OLD HOUSE AT WHAKATO.

centipedes. Fishes occur frequently, two of the better examples being shown in figs. 9, 10. These are both decorated with conventional patterns. Among the Opihi cave-drawings, human figures appear with some frequency, but are in many cases highly stylized (figs. 11-13).

Of the fourth category, only two paintings are known to the writer, and these are both reproduced here. From Blackler's Cave, Pleasant Point, South Canterbury, comes the vigorous painting shown in fig. 15. Undoubtedly it represents a prehistoric hunting scene, and it is comparable in vigour with the paintings of the Capsian peoples of south-eastern Spain. There are four human figures which are pursuing one of the smaller moas. The moas comprised some twenty or so species of giant extinct birds, some of which are known to have been hunted by the

ancient Maori. In the silhouette sketch of Blackler's Cave we have a record by a contemporary artist who was familiar with an animal which no white man has ever seen. At the beginning of the nineteenth century when the first investigations into the nature of the extinct moas were being made, it became quite clear that the Maoris of that date had no first-hand knowledge of the bird. Their legends were improbable and confused. The account of it given by the East Cape natives described it as like a giant with a head of a man. It was said to live on Mount Hikurangi and to devour any men whom it could capture. Thus the comparatively accurate representation of a moa-hunt given in the Blackler's Cave painting provides evidence of its antiquity.

In the second edition of Manning, *Old New*

Zealand, there is a picture of the roof-timbers of an old house at Whakato. On one of these there is a representation of the fishing of Maui (fig. 16). This probably was executed after the arrival of the missionaries, but that does not necessarily imply European influence. On the other hand, its kinship with the previously described painting from Blackler's Cave is quite marked. In Maori mythology Maui is an ancient hero who distinguished himself, among other acts, by fishing up an immense leviathan which became the North Island of New Zealand, 'Te Ika a Maui.' This painting tells the story of the incident.

Like the moa-hunt painting it displays capacity in composition, but it seems to lack the delightful abandon of the former. The fish is stiff and stylized, whereas the figures in the Blackler's Cave group all betray excitement and movement.

To sum up, we may conclude that while conventionalized traditional and decorative art is characteristic of the ancient Maori, nevertheless pictographic art was not unknown to him. Judging by the Blackler's Cave example, pictographic art was in a higher state of development in prehistoric times than it was at the time of the arrival of the first Europeans.

ROYAL ANTHROPOLOGICAL INSTITUTE: PROCEEDINGS

62 Some Arts and Industries of New Guinea and New Britain. *Summary of a Communication made by Miss B. Blackwood, B.Sc., M.A., on 25 March, 1941.*

This communication was illustrated by two films of the natives of the Marobe district, Upper Watut River, New Guinea, and one from the Arawi district of New Britain. Slides were also shown, and specimens collected by Miss Blackwood in these districts.

63 Prehistoric Iron prior to the Dispersion of the Hittite Empire. *Summary of a Communication, by H. H. Coghlan, F.S.A., A.M.I.M.E., 29 April, 1941.*

The paper discusses some of the earliest known appearances of smith's craft in Asia Minor and the Near East generally. By careful experiment, the author has sought to reproduce the conditions in which the earliest iron-workers must have come upon the first essentials of the craft, whether fortuitously or by design.

The paper was discussed by Mr. H. J. Braunholtz, Mr. W. B. Fagg, Professor C. H. Desch, F.R.S., and Dr. E. H. Hunt.

Dr. Desch thought iron might have been made in very small masses, long before the introduction of regular iron smelting. There would then be three periods to distinguish: one in which only meteoric iron was used; one of the sporadic production of small masses; and one of systematic smelting. A spongy bog iron ore, such as was sometimes found of high purity, might be reduced to such a metallic sponge that it would seem natural to forge it into a solid mass. The reduction might take place in a bronze furnace, more or less by accident. The forging into a solid piece required only the simplest of furnaces, a shallow depression in the ground and a twyer of clay connected with bellows. A well-known illustration in Ratzel's *History of Mankind* showed such a forge used by the Bari smiths. A stone anvil and a stone hammer were all that was necessary.

Although the reduction gives a soft iron, much softer than bronze, it must be remembered that long heating in charcoal converts the iron into steel. When a piece of prehistoric iron is examined microscopically, it is only rarely that it is entirely soft. Usually it consists of layers, varying in composition from pure iron to a steel with nearly 1 per cent. of carbon. Such a material would be hardened by quenching.

He was not convinced that the sharpness of the carvings in Egyptian inscriptions in hard stone was necessarily evidence of the use of iron tools. Some of the early Egyptian coppers contained so much arsenic that they would take a high hardness on being hammered, whilst bronze containing tin, when introduced later, could be made very hard. The Egyptian carver had plenty of time, and used a very large number of tools, throwing each aside when it became too blunt. It was difficult to reconcile the very early use of iron with the archaeological data.

An excellent survey of the early type of iron furnace, with details of ores and slags, was given by P. Weiershausen [*Vorgeschichtliche Eisenhütten Deutschlands* (Leipzig, Rabitsch, 1939)]. The book had to be read with caution, as the author's object was to show that German metallurgy owed nothing to any other country, and that all the ancient metallurgical inventions were there made independently, whilst he considers the use of iron to be earlier than that of bronze, bronze having a temporary popularity on account of its beauty. In spite of such absurdities, the book contains much valuable matter.

The Indian 'wootz' steel was a product of an entirely different kind. It was a true steel, made by melting in a crucible, and calling for a much higher temperature than the primitive iron workers could attain. Its origin was quite unknown, and there was a wide field for research in ancient Indian metallurgy.

Dr. Hunt had had opportunities of making some study of the primitive iron smelting of India. On

one occasion the late Capt. Leonard Munn took him over the site of some old working near Nirmal, whence some of the famous Wootz steel came. The whole countryside was littered with lumps of iron silicate, the slag of smelters who use no lime.

To this day locally smelted iron is preferred by many to the imported variety, for a very delicate edge can be easily maintained. This particularly applies to the men who draw the sap of the "toddy" palm.

Iron ore is found in enormous quantities in India, and the vast masses of iron silicate point to smelting over a very long period. It seems to be very unwise to apply to such a country dates for the "Iron Age" which are derived from other and distant countries.

Mr. Coghlan's paper is printed in MAN, 1941, 59.

The Basis of Nutrition in Tribal Society. *Summary of a Communication presented by Dr. Margaret Read, M.A., Ph.D.; 27 May, 1941.*

64 Nutrition is, strictly speaking, the relation of diet to physical health. But as nutritional studies are generally related to welfare schemes, and these involve changes in agricultural method, it is essential to understand first how the people produce their food supply. We should know what their attitudes are to their land, and to their work on it. This paper is based on a sociological and economic study of three Nyasaland villages which were selected for an intensive medical, dietetic, and agricultural survey. The three villages represent different types of environment. They belong to three different tribes, but because of historical reasons, connected with the slave trade and the advent of the European, tribal customs have been much modified.

The first part of the paper is concerned with the land as the basis of the food supply; that is, with land settlement, land utilization, and land tenure. With regard to beliefs about the fertility of the land, the three villages hold very different views, and these have an important relation to their agricultural work.

The second part attempts to summarize, from data obtained in these villages, and in other areas, the tribal views on nutrition. They have their own ideas about what is 'food' and what being satisfied with food means. They have also different ways of meeting a food shortage. To achieve a regular and plentiful food supply three qualities are recognized as essential—qualities which are not found combined in any one in the three villages. Only those individuals who are earning wages, and therefore can buy food, are secure from a shortage.

In conclusion, the people do not believe that their food supply depends only on hard work. It is closely related to their religious and magical beliefs, especially those centring round fertility rites. To-day their belief in supernatural aid has been undermined, and without it they are disheartened and bored with their efforts to win a food supply. They tend, therefore, to emigrate, to work for wages where they can get a regular food ration.

Some Causes of a Revival of Tribalism in South African Native Reserves. *Summary of a Communication by Miss Audrey I. Richards, Ph.D.; 10 June, 1941.*

65 The term 'tribalism' is used in South Africa in a variety of different ways, e.g., (a) In general parlance—to mean the survival here and there of elements of the old Bantu culture in the form of odds and ends of material culture or ceremonial usages; (b) In politics—to mean, according to rival schools of thought, either the dead weight of 'custom' or rather of tribal obligations, thought to hold back the advance of the individual African; or alternatively, the idyllic conditions said to exist where natives are living 'on their own lines' segregated in reserves; (c) In economic literature—to mean different forms of labour or types of economy, e.g., rural as against urban, unskilled as against skilled, migratory as against permanent, etc.

The sociologist must restrict the use of the term 'tribe' to a particular social group rather than a way of living. Hence 'a revival in tribalism' means to him either a revival of the sense of tribal cohesion, the acceptance of tribal obligations formerly allowed to lapse or the acknowledgement of new obligations, or the resumption or appearance of new activities on a tribal scale.

As an example of this phenomenon a small Tswana tribe, the Bakgatla ba Mosethla, living near Pretoria, may be taken. In this tribe Europeanization appears complete as regards clothing, housing, recreation, and economic activities. Historical events such as the northward raids of Zulu armies and the upward push of Dutch colonists resulted in the scattering of the Transvaal tribes in the middle of the nineteenth century, and the Bakgatla are to-day living in three separate reserves in the Transvaal, and a fourth group over the border in the Protectorate of Bechuanaland. Government policy first permitted the purchase of land by natives, and the Mosethla group are now living on eight tribally owned farms and eight so-called 'syndicate farms,' i.e., originally purchased by syndicates of natives and therefore not under tribal rule. The chief's power was not fully recognized until 1927, and by the beginning of the twentieth century he was failing to exact tribal dues, or tribute labour on the *lesvate*, or communal fields. Native law was not recognized until 1885, and the chief was not given civil jurisdiction until after 1927. The tribal council system—its *pitso*—had lost importance owing to the absence of so many men at work in town and the number of tribesmen living on their own farms. There had been no age-grade ceremony performed this century and the old age-grade dues were given up. The funeral and accession ceremonies of the chief seem alone to have retained something like their original cultural form.

However, visits to this reserve in 1939 and 1940 showed the revival of tribalism in a sense of conscious, almost militant feeling, and of tribal activities of all sorts. The village *khotia* and the

tribal *pitso* were held constantly, often devoted to 'modern' questions of business, the provision of school buildings or the raising of a loan to buy a new farm. These meetings were composed of old and young men, and the latter were introducing European forms such as minute keeping, chairmen, committees, etc. Besides this a new tribal council had been instituted during the last three years—a quarterly council to which the syndicate as well as the tribal farms sent representatives, thus bringing the individualist native back into the tribal political machinery. There seemed to be a strengthening of links between the four scattered groups of Bakgatla, of which the chiefs were combining to raise money for a co-operative store. This co-operation cut across the political frontiers of British and Union territory. There was revival during the last few years of old tribal dues, *e.g.*, age-grade dues of a beast a head when the regiment was formed; the re-cultivation of the *leswate* communal field; and the introduction of a tribal levy of £1 a head.

New tribal societies were also being formed, among them the Kgatla Improvement Society, of 5 years' standing, a group of go-ahead Bakgatla, men and women, with a uniform, a song and a programme of reform, who spoke of themselves as 'We Kgatla.' A separatist Kgatla Christian church was also powerful.

This revival of tribal activities was not based on historical traditions since few tribesmen remembered their history, and became interested in learning it as a result of the new tribal feeling and not as the cause of it. The movement seemed to be mainly economic in origin, rising out of an intensely-felt

need (a) for some credit-producing machinery to make possible the buying of land for the tribe under the new land Act of 1936 which made it possible for tribes to buy land but not individuals; (b) the extension of social services, schools, clinics, etc., which the people felt hopeless of obtaining from the Government; (c) the desire for communal funds for the feeding of councillors engaged on tribal business; and (d) the provision of security. It also satisfied the political aspirations of natives denied full citizenship in the political and social system of the European, and gave them opportunities of leadership and control over their own social services, schools, etc. It was in many ways an anti-European movement. The return to old forms, age-grades, etc., enlisted the help of old men who still hankered for them together with young men who, some of them, began to romanticize the past as a form of anti-Europeanism. The use of new business methods, book-keeping, file-keeping, etc., with these old political and social forms also satisfied both parties. The meetings increased the whole tone of social activities and provided relief from the boredom of present-day native reserve.

Such a movement, that has some American and Pacific parallels, shows the possibility of combining tribalism in the sociological sense with an almost complete abandonment of the old cultural forms, material culture, ceremonial life, etc.

Its appearance seems to depend, in South Africa, on a variety of different factors, among which history, Government native policy, particularly as regards land-settlement, colour-feeling, and personal leadership may all play a part.

OBITUARY

JOSEPH HACKIN, 1886-1941.

66 Through the death on active service of Commandant Joseph Hackin, France has lost an archaeologist of rare ability, a leader in that band of Orientalists who have distinguished French scholarship in our time.

Born in 1886, Hackin became in 1913 Conservateur adjoint of the Musée Guimet, and to his enlightened reorganization the Museum owes very much of its attraction and value. In 1924-25 he undertook his first mission in Afghanistan and in 1928 became professor of Indian art and archaeology in the École du Louvre. From 1930-1933 he was the French director of the Maison Franco-Japonaise at Tokyo; in 1934 he took over the directorate of the Délégation archéologique in Afghanistan and there, until the outbreak of war, he conducted the remarkable excavations at Begram.

A man of manifold interests, wide experience and high artistic appreciation, and a meticulously careful worker, he was particularly well qualified to deal with the rich material which the site at Begram yielded in such abundance. Here had been the

meeting-place of East and West, and the composite civilization of the Kushan dynasty found in Hackin an ideal interpreter. His work on the development of Oriental art was that of a pioneer, but so masterly that it will be supplemented, but not supplanted, by whatever discoveries the future may bring: it has well and truly laid the foundations of our knowledge in that field.

Hackin had won decorations for gallant service in the war of 1914-18. In the present war he was appointed to serve on General Weygand's staff as liaison officer in Afghanistan. After the armistice he was asked by the Pétain Government to stop at Kabul as diplomatic head of the Mission while retaining the directorship of the Archaeological Delegation; but without any hesitation he wired to General de Gaulle offering his services to Free France. He and his wife came in due course to London. There he served on the General Staff as diplomatic adviser on Oriental affairs, while Mme. Hackin, an archaeologist who had for years shared her husband's works both in the Musée Guimet and in the Afghan excavations, and was no less ardent

than he in the cause of Free France, was commissioned in the Corps Feminin. Husband and wife were en route for the Far East on a special mission, when they were killed together.

A very great number of friends, both French and English, lament the untimely loss of one who was not only a fine scientist and a gallant soldier, but a very human and peculiarly lovable man. Absolutely straightforward, with a seriousness of purpose

tempered only by a gay sense of humour, he could win the unbounded devotion of those who worked with him because in his own devotions he was so whole-hearted. When he answered to the call of Free France he explained his action in a phrase which might have been his motto through life: "*La cause que nous servons n'admet pas la moindre compromission.*"

LEONARD WOOLLEY.

REVIEWS

AFRICA

The Nuer ; a Description of the Modes of Livelihood and Political Institutions of a Nilotic People.
By E. E. Evans-Pritchard. Oxford: Clarendon Press, 1940. 271 pp.

Without doubt the Nuer live in the most difficult country in the Anglo-Egyptian Sudan. The geographical and climatic conditions have not tempted invaders or traders into their territory; even the slave-raiders have left the Nuer unmolested. Yet the Nuer have flourished in proud isolation. Unconquered, and a scourge to their neighbours, they have little interest in strangers and no feelings of deference for them; in character they are as intractable as their country. To a less intrepid investigator than Evans-Pritchard anything but a brief survey might have seemed an impossibility. But the actual difficulties and hardships forced a new method of investigation, a novel presentation of his material, and an original analysis and theory of social structure. Thus this work forms a most important and stimulating contribution to social anthropology.

In the first chapter Evans-Pritchard describes the Nuer interest in cattle. The Nuer live by and for cattle; cattle are involved in all social contracts and religious rites. Feuds and blood-wealth payable in cattle, and cattle-raiding parties, form the nodal points in political structure. Cattle inspires their poetry—the only art that they cultivate. Milk is the staple element in their diet; the care of cattle dictates their migratory life and fosters their ideal type—courageous and pugnacious, with a contempt for hunger and hardships.

The Nuer cannot live by cattle alone, they cultivate millet, and do a considerable amount of fishing. Though their country abounds in game, and they do kill and eat wild animals, they only regard this as a substitute for cattle, they are not skilful hunters and take little interest in it.

The next chapter, 'Oecology,' gives an account of the Nuer habitat; the poverty of their resources and the periodicity of the seasons determine the material culture and the whole rhythm of Nuer life.

"Location and size of wet season villages and the direction of movement in the dry season are determined by their oecology. The oecological rhythm divides the Nuer year into two divisions, the wet season when they live in villages and the dry season when they live in camps, and camp life falls into two parts, the earlier period of small, temporary camps and the later period of large concentrations in sites occupied every year.

"Scarcity of food, a low technology, and absence of trade make the members of smaller local groups directly interdependent and tend to make them economic corporations and not merely residential

"units to which a certain political value is attached. The same conditions and the pursuit of a pastoral life in difficult circumstances produce indirect interdependence between persons living in much larger areas and compel their acceptance of conventions of a political order" (p. 93).

The chapter on 'Time and Space' reveals Evans-Pritchard's outlook on social structure; it is well illustrated by diagrams. It may be doubted whether the concepts 'structural time' and 'structural space' are really essential, but they are brilliantly used to analyse the correlation of the historic experience of the Nuer and their present social organization. This is a subject never previously so thoroughly investigated. "In a sense all time is structural since it is a conceptualization of collateral, co-ordinated or co-operative activities" (p. 104). This treatment stresses the interdependence of all parts of culture, economic, social, religious and political, which may sometimes be lost sight of when the more conventional headings are used. Age-sets and generations in the kinship system are points in structural time. But structural time is a reflection of structural distance and this may be divided into political distance, lineage distance, and age-set distance (p. 113).

"The values attached to residence, kinship, lineage, sex, and age, differentiate groups of persons by segmentation, and the relative positions of the segments to one another gives a perspective that enables us to speak of the divisions between them as divisions of structural space" (p. 110).

Segmentation is the main principle in the lineage system. Stress is laid on the relativity of social values, and the Nuer's awareness of this relativity.

The chapter on the political system is perhaps the most interesting section of this book. Not of least interest is the position of Dinka in Nuer society. The Dinka are hereditary enemies, they are despised as poor fighters, they are worth fighting because they possess cattle. Yet Evans-Pritchard estimates that perhaps 50 per cent. of the population are Dinka or the descendants of Dinka. Nor are the Dinka badly treated; though it is not forgotten that they are not true Nuer, they are actually absorbed into the population. By an analysis of the sectional and tribal fissions and fusions, and above all the different types of fighting and the blood-feud, Evans-Pritchard has been able to disentangle a definite political structure in these people, who have no chiefs, and appear to live in ordered anarchy. He states that only by a study of the kinship system can it be understood how order is maintained among these individualistic democratic people. Clearly a full account of his kinship and religious systems would require another volume. Yet one cannot but regret

that he has not included some account of these subjects. Throughout the work the reader is aware that the principle that Evans-Pritchard so ably demonstrates as active in the formation and cohesion of larger groups must be present in the smaller kinship groups. Thus all students of social anthropology will eagerly await Evans-Pritchard's return from military to anthropological activities and the publication of a further work on the Nuer.

BRENDA Z. SELIGMAN.

Bemba Marriage and Present Economic Conditions.

68 By Audrey I. Richards. *Rhodes-Livingstone Papers No. 4. Livingstone, N. Rhodesia, 1940.* 123 pp.

Dr. Richards has made an exhaustive study of every aspect of Bemba marriage as it has been affected by modern developments. As she explains in her introduction, she is interested primarily in the effects of the migration to labour-centres, which is the most striking phenomenon of present-day central and southern Africa. Here, she suggests, valuable conclusions could be drawn from a study of the varying reactions to the same impact of different types of native social structure. In her view the nature of the economic transaction which accompanies the marriage is probably the most important differentiating factor.

Comparisons of this kind must await the results of further work on the lines of this excellent example. The fact that much of such comparative material as exists is drawn from areas far apart geographically, and representing widely different social systems, illustrates the need for a great increase in the personnel available for fieldwork, if it is hoped to obtain any satisfactory insight into the problems of modern Africa. At the same time, the broad similarities that are evident in these very different cases are as instructive, in their way, as we should expect the local differences to be. Everywhere a loosening of family ties has accompanied the decreasing importance of family co-operation in the economic field, and nowhere has a satisfactory re-adjustment been made. Every fresh study reinforces the argument that it is

dangerous to see native development in economic terms alone, and to pursue it at the expense of social institutions.

As elements making for unusual instability in Bemba marriage, Dr. Richards mentions the absence of any permanent heritable property, and the lack of any close link with a fixed area of land. One might hazard the guess that the essential point is not the absence of property as such, but of cattle. Where money circulates freely, it can be converted into heritable property of many kinds; but there seems to be no substitute for the close bonds connecting persons between whom cattle, each one individually known, have been exchanged.

Dr. Richards' account of the Bemba attitude towards sex and marriage is interesting, not only for its comprehensive nature, but for the contrast it provides to some theories of the ideal 'natural' relationship between the sexes, often ascribed to primitive peoples. It shows that although some primitive societies allow scope for experimentation before marriage, such as might reasonably be regarded as a valuable preparation, in one at least it is approached in a 'hit or miss' manner which European reformers would not wish to imitate. Dr. Richards shows, too, how the circumstances of Bemba life actually demand an interpretation of the marriage relationship, in practical terms, quite different from the romantic ideal which missionaries seek to inculcate.

Particularly valuable is Dr. Richards' account of the prevalence of divorce in modern times, with statistics of divorce rates, causes of divorce, and the type of settlement reached, and of recent modifications under the influence of decisions by native courts and district commissioners. Her warning is worth noting that "the task of the anthropologist is not to codify Bemba marriage law, but to elicit the general principles underlying it, and to indicate where possible the present tendencies."

The frequent use of the word 'abjure' for 'adjure' is rather misleading, and 'nuptial'—which occurs too consistently to be explained as a printer's error—does not seem a happy innovation.

L. P. MAIR.

AMERICA

Los Tarascos: Monografía Histórica, Etnográfica y Económica.

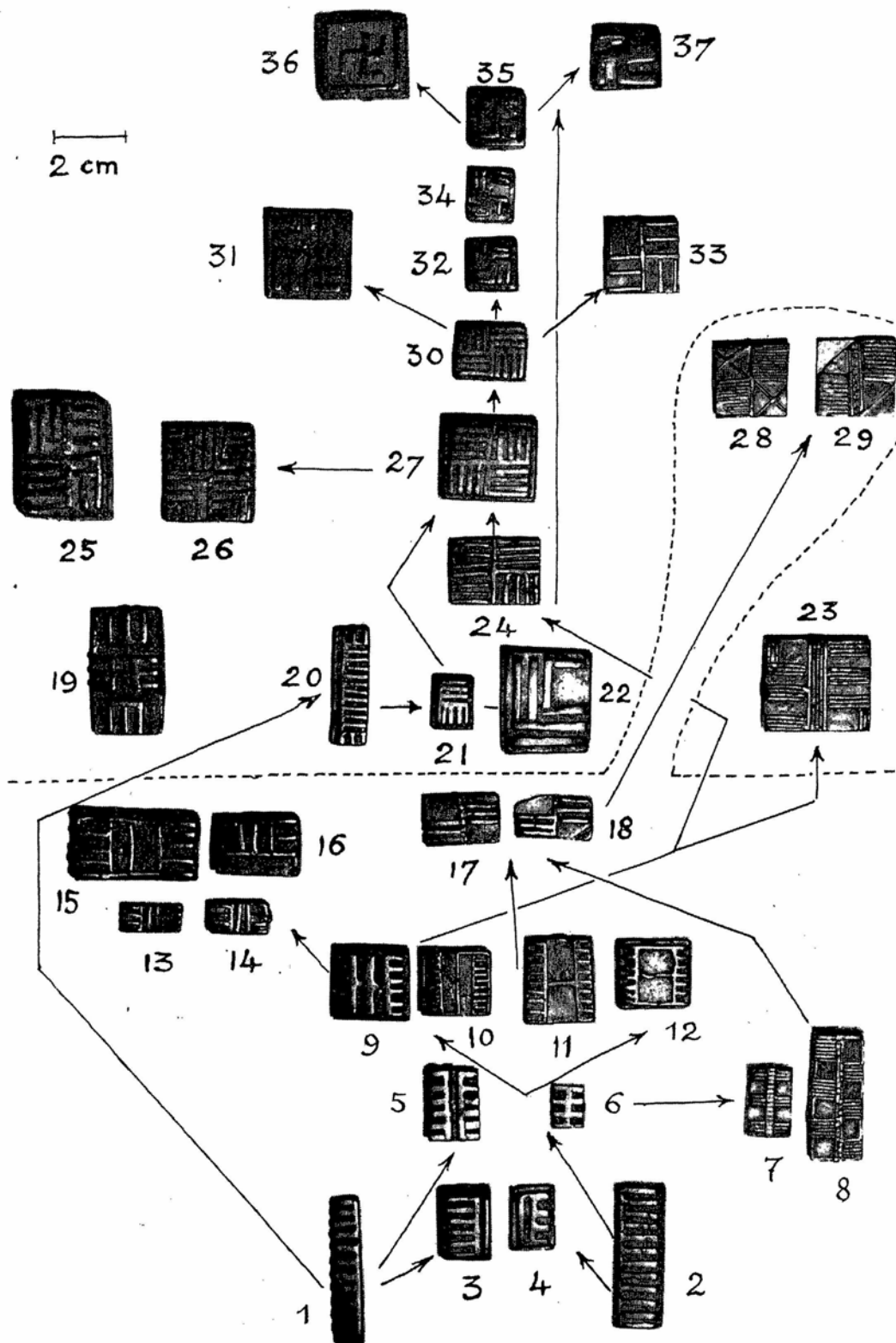
69 Edited by L. Mendieta y Núñez; various authors; *Universidad Nacional Autónoma de México, 1940, folio 311 pp. Many illustrations.*

This monograph on the Tarascan (or *purépecha*) Indians of the State of Michoacán appears on the occasion of the fourth centenary of the foundation of the State University. Against a background provided by archaeological, historical, and geographical papers the state of these Indians today is portrayed in a series of contributions from field-workers in Sociology, sent out by the National University of Mexico, and the whole is summarized by the Director in a prologue, laying emphasis on the essentially practical object of the investigations—to guide the policy of the central government. A firm, but not unsympathetic, policy is sketched, designed to bring the native into line with modern culture.

The two great obstacles to assimilation have been language and the domestic character of the native industries. The Tarascan language, whose lack of affinities with any other Mexican language has raised a problem for the ethnologist, is still spoken by 45,000 people, one-third of whom are monolingual: it is now disappearing, but not rapidly enough in the Director's view. The industries (among them the lacquer industry, claimed as pre-Colonial and unique in America) bear still the impress of the Early Colonial Period, when Vasco de Quiroga, first Bishop of Michoacán, allocated

industries, on a regional plan, to the villages in which they are practised today. Vasco de Quiroga founded also a number of collectivized settlements, called *hospitales*, living by a most enlightened Rule, of which traces are said to have survived until the present. The Spanish missionaries industrialized native art, which did not recover from the shock of the Conquest, but their influence in other respects was beneficial; and agriculture, the secondary means of livelihood, was revolutionized by the introduction of the hoe and the ox-plough (called here 'Egyptian'—why?). The hybrid culture which resulted has remained static at the sixteenth-century level, and has not been raised, though partly disintegrated, by modern measures of social and land reform. The disastrous effects of schemes of land reform in a milieu of communes and of poor peasant proprietors (owners of 3 *ha.* are described as '*latifundistas*'—the term 'Kulak' does not appear to have reached Mexico) are clearly brought out. What is to be done to provide everyone with land, when there is not enough arable land to go round, does not appear clearly from the monograph. But the Director suggests an ingenious alternative to the equally disastrous anti-Catholic measures, namely, that the State should set up in each village "a house, as a civic symbol, not exactly rivaling the Church, but to be the temple of another religion compatible with all religions—the religion of the fatherland." Comment is needless.

R. A.



THE ORIGIN OF A WEST AFRICAN SWASTIKA.

ILLUSTRATED FROM DESIGNS ON BAULE WEIGHTS FROM THE IVORY COAST, IN THE INSTITUT FRANÇAIS D'AFRIQUE NOIRE, DAKAR.

MAN

A RECORD OF ANTHROPOLOGICAL SCIENCE

PUBLISHED UNDER THE DIRECTION OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

XLI, 70-83

SEPTEMBER-OCTOBER, 1941

ORIGINAL ARTICLES

ON THE ORIGIN OF A WEST AFRICAN SWASTIKA. By *Theodore Monod, Institut Français d'Afrique Noire, Dakar.* With Plate E.

70 Is it possible to connect the West African *swastika*-area with one of its other provinces? It is not certain, and nothing can *a priori* prevent us from conceding for a pattern of finally such simple a design as the 'fylfoot' a simultaneous discovery through plain convergence.

It seems, at all events, feasible to recognize for the Baule region of the Ivory Coast, French West Africa, all the stages of the local (and probably autochthonous) development of a geometrical pattern ranging from the simple one-sided comb (Nos. 1-2) to the most typical *swastika* (Nos. 36-37), the latter being possibly nothing more than a purely ornamental design.

The specimens represented in Plate E are from the collection of Baule weights in the Institut Français d'Afrique Noire, Dakar.

I describe hereafter the stages likely to be admitted between the one-sided comb and the *swastika* with simple arms. The simple one-sided comb (Nos. 1-2) can be shortened (Nos. 3-4); it can also be evolved into a double two-sided comb (Nos. 5-6), which will itself show a tendency

- (1) towards a shortening which, running through the longitudinal rectangle (No. 11) and the square (Nos. 9, 10, 12), will reach the transverse rectangle (Nos. 13-16);
- (2) towards a grouping of the teeth in opposed (No. 7) or alternate (No. 8) series, together with transition to a shortened type (Nos. 17-18), itself possibly the root of the quadruple square with reciprocally-opposed parts (Nos. 28-29).

Such a square, in spite of its complexity, is still far from the actual *swastika*, as all the lines remain parallel.

The important find, as to the *swastika* genealogy, seems to be the orthogonal opposition of groups of lines. It may be pointed out:

- (1) on one-sided combs (Nos. 20-21, even 22, somewhat aberrant),
- (2) on two-sided combs (No. 23, still very 'timid,' and No. 24).

This No. 24 has everything needed for a rapid transformation into a true *swastika*: it is a double-sided, shortened, square comb in which a quadrant is, in regard to the three others, orthogonally striated. To make that odd quadrant symmetrical (No. 27) will be sufficient to obtain a design which is, in fact, a *swastika* with fourfold arms; soon they will be partly fourfold, partly threefold (No. 30), then twofold (Nos. 31-34), partly twofold, partly simple (No. 35) and, last, all simple (Nos. 36-37). We have then the typical 'fylfoot.' A lateral tendency, complicating the disposition of the lines (Nos. 25-26) 'exceeds' the *swastika* pattern, just as the Nos. 28-29 type had 'missed' it.

Such a series has a meaning. It shows first that a design, seemingly so specialized as the *swastika*, may well be only the simplification of a geometrical pattern (fourfold square with two groups of quadrants themselves striped in opposite directions), itself a complication of a very simple type, the one-sided comb.

We are also reminded, once more, that characteristic, and even somewhat complex forms, may sometimes have separate origins, their final identity only due to mere convergence.

If the West African *swastika* is actually autochthonous, one may well ask whether still others, *e.g.* the American or the Chinese, will not also prove to be of local growth.

OSIRIS AND THE FERTILITY-RITE. *By G. D. Hornblower.*

71 In MAN, 1937, 86 and 90, I endeavoured to establish, by analysis of the records, the relationship of the Osirian rites to those prevailing in Hither Asia. I propose now to bring to notice further details showing the closeness of that relationship and enabling us to deduce the probable origin of the primitive fertility-rite which was the background of them all.

I will begin with the myth of Mother and Son who became her spouse. It was general among the peoples of Hither Asia where it developed various forms in different regions, the best known to us being the original of the tale of Venus and Adonis, in which, as in others, the double rôle of the male has been simplified into that of lover. A not unlikely explanation of the development of the myth is that, in the course of time, to mark the powers of fertility of the Great Goddess, source of life, she was given mythologically a son and that when a thorough understanding of the male procreative function was established, a husband was added; the group, thus completed, would symbolize and magically promote the increase of the people and also of all things on which their prosperity depended; the figure of the Son, already in existence, was mythically resolved into the new one of Spouse.

There are indications of the existence in primitive Egypt of this class of myth. A text noted by Lanzzone in his *Diz. Mit. Eg.* p. 880, from Brugsch, *Dictionnaire Géographique*, p. 249, gives her name as 'Mother of Horus' (*Mut-her*) while Plutarch (*de Is. et Os.*, 56) refers to Plato as interpreting her name as the place, otherwise 'womb,' from which Horus sprang. This relationship seems to have vanished early from Egyptian theology, perhaps at the advent of Isis with the Osirian circle, though possibly it lingered in a popular tradition on which Plutarch's allusion was founded. The conception of a mother-goddess mating with her son was clearly known in Egypt as the epithet of Horus, 'Bull of his Mother,' bears witness; it appears too in the tale recorded in ch. 112 of the *Book of the Dead* where Isis—who usurped in many respects on Hathor—bore to her son Horus his 'Four sons,' whose duty it was to guard the mummified viscera of the dead—they were probably by origin primitive genii or godlings who were

adopted into the Osirian cult by the usual synthesizing process.

Hathor's position as wife of Horus is prominent. Her temple at Dendera records her splendid yearly procession for her hierogamy with Horus in his city of *Behdet* (Edfou) the result of which was the birth of the young Horus, the confusion of whom with the older was mentioned in the beginning of my second article. Horus and Hathor were pre-Osirian and their rite must have been so also, but when the Osirian cult was established in the country and the great deity of vegetational fertility was manifested in Osiris, he took the male part in the principal national ceremony. It seems likely that, besides this chief ceremony, smaller ones were performed in every district and that the local chieftains originally played in them the part of spouse, for this would account for the large number of towns which, according to the inscriptions, notably those at Dendera, had connexion with Osiris, to whom the male rôle had been transferred in these districts also. This suggestion, though so far without concrete confirmation, fits in with the Babylonian scheme of hierogamy, as will presently be seen. In later times, when Thebes became the splendid capital of a new and victorious Egypt, its god, *Amân-the-Sun*, still followed the old way and celebrated his yearly hierogamy; this was prefaced by the magnificent procession of the 'Beautiful Festival of Opet,' recorded in the temple of Luxor, when he made his journey from the Northern to the Southern city, there to mate with his spouse; the king also had his part to play in the ceremony, to be noted later.

The idea underlying these rites still lives in the world; sexual excesses still occur at certain religious festivals. So far was the idea stretched in the island of Bali that at funeral ceremonies exceedingly lewd pictures are painted on the monstrous temporary structures, which are believed to ensure for the deceased a happy after-life (verbal communication from the Marquis de la Falaise de la Coudraye). In modern Egypt the idea seems to have taken a strange path: at the great *moolid* of Tanta, that is, the religious observance of the local saint's birthday, he, like the woman-saint of Cairo, Sayida Zeinab, has a

high reputation for producing fertility in the barren; this reputation has been the cover for licentious freedom which long gave the *moolid* a bad reputation.

In our search for the underlying bases of Egyptian rites we should be much handicapped if confined to surviving records, whether written or inscribed on the walls of sacred buildings. These records must of course be probed, even in their apparently slight details and especially in those that seem to be incongruous, for indications of beliefs and practices which have not been explicitly recorded, being, it would seem, of little or no importance for the State-organized religion. Among such documents the *Pyramid Texts* and the so-called *Book of the Dead* and its congeners are of first importance; they constituted instruments, of magical nature, to procure for the deceased protection and a happy time in his after-life; the former were collected and edited for the king, while the latter, of later date, were for courtiers and others who enjoyed privileged burial, granted by the king. Commoners of course could have no such privilege, nor could they afford the enormous expense; they could not indeed meet the cost of the funerary papyri, which were lengthy and complicated, and they were perforce restricted to the use of protective amulets. Of these vast numbers have survived, in great variety, constituting excellent witnesses to the beliefs and aspirations of the rank and file. Such beliefs were often based on old religious strata and, on analysis, may yield useful information about them.

Of the amulets representing mythical matters an exceedingly popular one was the figure of Isis suckling Horus, and naturally so, since it was a high symbol of the nation's well-being; another, not so common, but often beautifully rendered, was a miniature plaque showing Horus, the 'small son'—weakling, as some texts insinuate—between his two protectresses, Isis and Nephthys. Sometimes a rarer amulet figured Isis alone protecting her son with outstretched wings, while he is shown as a falcon; the spreading of wings in this way was a very usual symbol of affectionate protection, a common use being in the figures of the two Osirian goddesses painted on mummy-cases—it holds its place with us to-day—but when applied to the sun-disk it marks the synthesis of the early cult of the Falcon with the later one of the Sun as

we may infer from H. W. Fairman's recent interpretation of the myths carved on the walls of the Horus-temple at Edfou; these myths had undoubtedly an ætiological intention (*J. Eg. Arch.*, XXI, pp. 26, ff).

In all this class of amulets there is no sign of Osiris; Mother and Son alone suffice for the wearer. True, figures of Osiris are common, often in bronze, but he is in royal guise, as King of the After-world and, like Minos, its supreme Judge; as such he dominates in the well-known pictures of the Weighing of the Heart, that awe-inspiring test of fitness for a blessed after-life which was the fore-runner—maybe the fore-father—of the Psychostasis of Hermes. His function as judge was firmly grounded in popular belief, as the letters clearly attest which the living sent to their dead forebears threatening to hale them before the Great Judge if they did not heed the writers' complaints. His supremacy as king is very marked in the *ushabtiu*, or 'answerers,' funerary charms by means of which the deceased trusted to evade the canal-digging labours enforced on the dead as land-cultivators in the After-world, for it was pictured as a counterpart of the world of the living, subject to a mighty king of whose duties a principal one was the making and maintenance of canals. The yearly celebration of the spousals of Osiris was indeed accompanied by much holidaying; it was his one great deed of vital activity for the good of the country, but at the elevation of the *djed* the people's shouts were raised for Horus, the fresh young son whose renewal has been once more ensured—Osiris went back to his dark secret place; Mother and Son remained.

But, as we have seen, Osiris had other functions, never in abeyance, chiefly as god of Vegetation and Nile-water. In those capacities he received a large meed of gratitude, duly recorded in the hymns addressed to him, but these were the productions of priestly scribes, followers of the King and Court, and not of popular character. That character is rather to be sought, as in the festival of the *djed*, in the public rejoicings at the finding of a new Apis bull, with its sacred markings, when the old one died. This animal, like the ram of Mendes previously mentioned (*MAN*, 1937, p. 172), was most probably a primitive quasitotemic god to which a connexion with Osiris had been staged when the cult of the latter was young and strong; an inscription at Dendera

reproduced by Lanzone (Pl. CCLXXV, fig. 1) suggests that he had originally belonged to the town or district of Hap whence he took his name of *Hapi*, græcized as Apis. In later days, when official religion was declining, the cult of Apis became once more prominent, as did that of other animals, to the great contempt of the Greeks and Romans; so strong was its hold on the populace that even as late as the mid-fourth century A.D., in full Christian times, it was reported by Ammianus Marcellinus (XXII, 14: 6-8) that there was a great outburst of popular joy at the finding of a new Apis bull, properly marked, for in their belief it would bring abundant crops and general prosperity: the place of Osiris himself in the Christian world, as we may see from the Coptic tales translated by Amélineau, was taken by St. Mercurius.

The cause of the first Ramessids placing within their new temple sculptured figures of the Osirian rite, which had never been thus honoured before, may well have been that they had been touched by a sense of failure in the workings of the official sun-cult and, like the common people in the case of animal-worship, preferred to place more of their trust in an older order; reaction naturally turned towards the immemorial rites which were close to the people's understanding and affection, and so Abydos, the centre of the Osirian cult, was chosen for their temple-site. On this matter generally and the true position of the folklore kind of myth, see Erman, *Ancient Egyptian Religion*, 3rd ed., French translation, p. 109.

The reactionary movement went further, even to crass superstition in the highest places, first observed in Seti I's tomb with its lengthy exorcisms of terrible demons who might bar the spirit-voyager's way to his last home. With the failure or weakening of religious systems similar reactions may be seen in many quarters; in modern China, for example, after the setting up of the Republic and consequent breakdown of the ancient religion, superstition of an extreme type has generally prevailed; in Mexico, again, when an extremist government closed the churches against the very faithful Christian Indians, some of them, in the province of Yucatan, as Mrs. T. A. Joyce told an interviewer from the *Daily Mail* in 1931, resuscitated what they could of their ancient religion. Example may also be

taken from old Persia, where, when Zoroastrianism prevailed, the worship of the *fravashi*, a form of ancestral spirits, was submerged, but later, when the former had grown old, the older cult put forth renewed life, as the late Archbishop Söderblom has recorded in his articles on the *fravashi* in the *Revue de l'histoire des Religions* (Paris, 1899).¹ Seti's son, Rameses II, completed his father's temple, but when, with many victories in war to his credit, he turned to excessive temple building, he followed the ways of previous great victors, glorifying exceedingly the sun-god in his Theban aspect, from whom his name was taken ('Born of Rê'); nevertheless his tomb was inscribed with many of the superstitious exorcisms which his father so strongly favoured. Later still, the priests of the god took charge, eventually founding a dynasty, as their predecessors had done in the Fifth Dynasty.

A great antiquity for the cult of Osiris has here been posited, contrary to the opinion of several authorities that it was of comparatively late origin since there is no mention of him in the very early surviving remains, and the earlier Pyramid Texts give him less prominence than the later. To the second argument the answer may be made that the Fifth Dynasty, in which these texts began to be inscribed on the walls of royal tombs, was founded by priests of the Sun-cult who would naturally keep references to the rival cult as much in the background as they could; but they had nevertheless to accept it quite fully, especially in its connexion with the king, and when, later, the Sun-cult lost its first vigour, Osiris received greater attention. The absence of mention earlier still is not surprising. The fertility rite in which Osiris took the principal part was almost surely exceedingly primitive; it appears, for reasons to be presented later, not to have been connected at first with a single definite great god, but when Osiris came to be recognized as the divine promoter of fertility, the rôle of male was attached mythologically to him, at some time, seemingly, in the Gerzean period of Egyptian prehistory. No records then existed and no representations of gods or chieftains; the figures painted on prehistoric pottery were of magical intent, to ensure personal benefits

¹ A similar development may be noted in ancient Greece with the resuscitation in the Hellenistic period of primitive religious ideas (see Nilsson, *History of Greek Religion*, p. 52).

for the deceased, such as good luck in hunting, travelling, and so on—two exceptional cases, concerned probably with a mating ceremony, will be discussed later.

A pot of the Amratian period, preceding the Gerzean, shows a figure identified by Scharff as the queer attribute-animal of Set (*Aeg. Zeit.*, 61, p. 17, pls. 1 and 2—I owe the information to Dr. Elise Baumgärtel); he afterwards threw doubt on that identification for reasons drawn from the conventional representation of the animal many centuries later. It seems indeed to refer to Set and may have been intended to indicate the owner's tribe and to invoke his protection as tribal god of the deceased. The oldest representation of the Horus-falcon so far known occurs on a ship-ensign of the Gerzean period (Petrie: *Prehistoric Egypt*, pl. xxiii, fig. 5, no. 3), but we can fairly conclude that his tribe and Set's were contemporary, and not only that, but almost, if not quite, coterminous. Here I must withdraw my former acceptance, modified though it was, of Sethe's theory and return to my earlier conclusion that the Horians were settled originally in the district of which the capital was the city of *Behdet* (modern Edfou); known to the Greeks as *Apollinopolis*, for they identified Horus with Apollo. The late distribution of nomes placed two, the 3rd and 4th of Upper Egypt, between those of Horus and Set, but the early distribution, though not defined in records, is known to have differed from the late, and, since population was much smaller, the older tribal districts were almost certainly larger and fewer; they were not constricted, as later, by the needs of flood-irrigation, with its varying basins, often of great area, and the massive dividing banks which contained them. The claim that the Horians originated in the Delta was supported by the existence of 'The Town of Horus,' modern Damanhour, in that region, but that place had no importance in Egyptian history; it may have been founded by the Horians when they occupied the Delta, or perhaps it was originally the centre of another falcon-cult identified by its citizens, in a very usual manner, with that of the conquering Horus; several Egyptian towns had cults of this kind, such as Hieraconpolis Magna and Parva in Upper Egypt, a circumstance which may be reflected in the phrase 'Horus of the Horuses' current in the Ptolemaic period.

The Horians, then, expanding from their district

south of the Ombites, and bent on gaining larger territory and perhaps control of the pass to the Red Sea through the Hammamât Valley, entered on their wars with the people of Set which reached such intensity that they scored a deep mark throughout Egyptian history.

The pass to the Red Sea was important. Its entrance was near Coptos, in the Set district, which must have derived from it much profit. Through traffic was constant, as we may judge from the rock-drawings found by H. Winckler and published by the Egypt Exploration Society (1938-9); they include representations of foreign ships, as identified by Frankfort in his 'Studies of Early Pottery' and several of Nile-boats, indicating that traders coming up the Nile were frequent traffickers with others from outside coming over the Red Sea. This, then, was most probably the Osirian point of entry and not the Palestinian route on the North-east. The latter has been often preferred by scholars, largely on account of the Osirian guise of the ensign of the nome of 'Andjeti' which lay in that neighbourhood. It is mentioned in the Pyramid Texts (par. 220) as Chief of the Eastern Nomes and when these texts were edited it was doubtless important as guardian of that frontier. Its status in the Texts is always one of honour; Osiris is stated to have a seat there, but it ranks in this respect with other towns or shrines, such as Heliopolis, 'the Scorpion,' the 'White House,' an un-named shrine, 'Orion,' the city of Buto or even 'the Nomes' in general (pars. 181, 183, 184, 186, 188, and 192), and its relation to Osiris cannot therefore be considered unique. Above all, it must be noted that Osiris is always represented as wearing the two plumes of the White Crown of Upper Egypt; in the scene reproduced in MAN, 1937, Pl. K, he wears that crown itself—he was certainly no northerner.

Now, a general cultural advance is very noticeable in the Gerzean period of Egyptian prehistory and an increasing material prosperity, due undoubtedly to improved cultivation of the land. Thus we come again to the question of organized irrigation and its probable connexion with Osiris, and we face the further one of the likelihood of his Mesopotamian origin. In an article on 'The relations of Marduk, Ashur and Osiris' in the *Journ. Eg. Arch.*, VIII, pp. 41-4, Sidney Smith produced evidence of that possibility, and since then extended knowledge of the ancient Near

East has fortified his suggestion. For the material connexions between the two regions a mass of evidence has been produced and has been collected and arranged by Gordon Childe in his 'New Light on the Ancient East,' between pp. 101 and 206; he has suggested the existence of an ancient wide cultural zone extending from Hither Asia to Persia and the Indus valley, and has included in it Gerzean Egypt (pp. 297-8).

In the non-material—that is the religious or rather magico-religious—field, features common to both regions are many and important, and their evidence adds real strength to that of the material remains. It is of course true that religious concepts may spread independently by their own force of attraction, or fulfilling an inner need, without invasions or even incursions from their country of origin: in the classical sphere, for example, there is the case of the Bacchic rites which spread through the Roman world, as Livy has reported, 'like a plague.' Far earlier was the remarkable expansion of the Megalithic cult through the Mediterranean to Western Europe and the British Isles, reaching in places an inordinate excess; by recent authorities it is interpreted as being of purely religious character, without either political or economical backing. Comparable, perhaps, is the extension of Mother-and-Child divinities to West Africa, with certain funerary practices, some of them noticed by C. G. Seligman in *Griffith Studies*, p. 458; this is probably an example of the readiness sometimes shown by primitive folk to adopt from stronger civilizations the religious practices to which their superiority is supposed to be due: again, when defeated by enemies they are apt to attribute their misfortune to religious failings on their part or to some matter of religious superiority in their enemies. Of the latter a good instance in the Congo district has been recorded by E. Torday in *L'Anthropologie* (XXXIX, 1929, pp. 440-1); a strong people, the Kongo, attributed a defeat to not possessing idols such as their victors had, but, on adopting that practice, regained their superiority. The same idea seems to have inspired the ancient Roman *evocatio* whereby the enemies' guardian-deity is prayed to desert them and join the evokers (see H. J. Rose: 'Primitive Culture in Italy,' pp. 55-6). But a purely religious motive is out of the question in the case of Gerzean Egypt, with its remarkable influx of

material things, and we can hardly escape the inference which Childe, with his evidence, supports, of a great penetration from Mesopotamia, if not actual invasion. That country, also, experienced a great new cultural impetus under the Sumerians and one is tempted to enquire if they may not have been in some way the moving cause in the Gerzean advance.

In the field of the non-material we find, besides the legend of Tammuz and Ishtar and, in Phoenicia, the myth of Ugarit noticed in my previous article (MAN, 1937, p. 175), others from the regions on the east of the Mediterranean; they have been summed up by Stephen Langdon in his discussion of 'Tammuz and Ishtar' in *Babyloniaca* (t. III, fasc. 1, pp. 20, ff., Paris, 1914), where his main object was to establish that the wife of the Sumerian Tammuz was his sister Innini, whom he calls 'the virgin mother of fertility'; her Akkadian equivalent was the goddess Nin-khur-sag who, like Hathor, was figured in cow-form—as, indeed, was the Hera of primitive Greece.

The meaning of the name Tammuz was 'the faithful Son,' from which we may infer that sonship was his original relation to the goddess whose husband he became, a transformation of relationship similar to that of Horus with Hathor. Further points of resemblance have been published by Langdon in *Tamuz and Ishtar* (Clarendon Press, 1914); they are, the great lamentations of Innini and her passionate appeal for 'embracing' (pp. 31-2), as in the case of Isis; the Great Goddess as 'Lady of incantation' (p. 127)—Isis again—and the feature of two goddesses mourning for the dead Tammuz; lastly the identification of mother-goddesses with serpents (pp. 119-120), as in Egypt and also in Crete and Phoenicia. The goddess Ninlil, consort of the god of Nippur, seems to have mated with her son, though Pinches modestly protested against that interpretation of the texts with which he dealt in the *J. R. Asiatic Soc.*, April, 1919—'The Legend of the Divine Lovers' (pp. 200-202). At the 'Feast of the Determination of Destiny' (*Akitu*) at Babylon a hierogamy was solemnized between the city-god and his consort, the king representing Marduk, as at Lagash; he follows the city-god Ningirsu into his temple and there mates with his consort Bau, 'the queen's daughter of the pure vault of heaven'; see S. E. Pallis: *The Babylonian Akitu Festival* (Copenhagen,

1926), pp. 182 and 197; on pp. 147-8 he rightly qualifies such hierogamy as 'the great holy act, the chief sacrament of the agriculturalist.' Other noteworthy resemblances are the yearly death and resurrection of Marduk, the drowning of Tammuz, who was sometimes represented as 'water'; his deep sleep from which he was awaked with much difficulty, like Osiris from his seeming death, the great mourning for him, and so on, discussed by Delaporte in *Mesopotamia* (trans.), pp. 12, 15, 17, 23, and 25; also, for the king's hierogamy, 19 and 26. An instructive study of the sacrament has been made by Sidney Smith in the article 'A Babylonian Fertility Cult' in the *J. R. Asiatic Soc.*, October 1928, pp. 849 ff; his conclusions have been supported by other authorities, including Henri Frankfort, who, in *Iraq*, I, pp. 2 ff., has pointed to various allusions to the fertility-rite engraved on Mesopotamian cylinders.

It is perhaps worth noting that the corresponding rite in Crete, to which I referred in my previous article, p. 176, had no dominant male but only the figures of Mother and Son, as Jane Harrison has remarked in her *Prolegomena* (2nd ed., p. 497), and she very reasonably supposed that the myth of Demeter and the Greek hierogamy was derived from that island (p. 564); she argues, with Delaporte (*op. cit.*, p. 55), that Demeter and the Korê were in fact two manifestations of one personality, 'Mother-and-Maid,' to become, with the more rationally minded Greeks, 'Mother and Daughter' (p. 274). The Greek mainland too had similar myths, for which see W. R. Halliday in the *Camb. Anc. Hist.*, vol. II, p. 615.

The list of features of resemblance in the ancient cults of Egypt and Hither Asia is long and might be made longer; it suffices to prove a very real community of thought in both regions on magico-religious methods of promoting national prosperity. These methods originated under conditions of scattered peasantry, before the rise of cities which followed on the organization of a settled agriculture—the 'Second Revolution' of Childe's *Man makes himself*—but, since the peasantry constituted the very foundations of the State, the urbans were constrained to preserve its rites; they adapted them to their own political systems, with kings and priests in the foreground, and it is of course these adaptations that have come down to us in the records, with

their varying developments in the various city-states.

The primitive peasant rite has left some traces of itself in certain early remains, such as the prehistoric drawing of the Capsian period at Cogul in Spain, representing a mating ceremony (Obermaier: *Fossil Man in Spain*, trans., 1924, pp. 246 ff. and pl. XII—often reproduced); in Egypt a similar picture is found on two exceptional jars of the Amratian age, referred to previously (Petrie: *Prehistoric Egypt*, pl. xviii, no. 74, and A. Scharff in the *J. Eg. Arch.*, vol. XIV, p. 268 and pl. xxviii; see also my note 3 on p. 33 of the same Journal, vol. XV). Winkler records another example among the rock-drawings of prehistoric Egypt in fig. 24 of his *Völker und Völkerbewegungen im vorgeschichtlichen Oberägypten im Licht neuer Felsbilderfunden* (Stuttgart, 1937). The examples from the Amratian period show that this rite was pre-Osirian, conducted, it may be supposed, by heads of human groups, whether families or clans, or by special persons such as shamans; the evidence from Hither Asia would indicate that it was performed by the ruler of a group with his consort and, as the groups, with their growing prosperity, increased in size, rulers became kings, even if only small ones, and as such continued the old-established ceremony. In later times, when records begin, the cult of divinities had progressed and powers were attributed to them which largely subordinated those of kings, but not wholly, for in Hither Asia, as we have seen, the function of the male in the hierogamy was divided confusedly between god and king. In Egypt the case was the same; the primitive peasant rite was taken over by the State and the priesthood, as such matters were in ancient Rome; when Osiris became the chief god of fertility, the rite centred on him at Abydos, where he was reputed to be buried, but, despite this change, traces of the king's participation are clear, as we have seen in the Osirian rite; they are also apparent in the case of the 'Beautiful Festival' of Thebes previously mentioned; here the inscriptions tell us that the ceremony was performed for the king's well-being, with of course the implication of prosperity for all.

In the world of Christianity and Islam, kings have lost their portion of divinity and the ancient gods have disappeared, but the primitive rite has left its traces, in mangled forms, even to

our day, so deeply implanted was it in human imagination. Besides the examples previously noticed, a significant one was recorded by me in MAN, 1927, 97, from the Great Oasis and a relic from Roumania was added by Redcliffe Salaman in MAN, 1930, 33; the latter was probably the direct descendant of Priapus who was the surviving element of the rite in the ancient classical world. Many cognate instances may be culled from the teeming pages of the *Golden Bough* and Hartland's article on "Phallism" in Hastings' *Enc. Rel. and Ethics*, vol. IX, pp. 815 ff. An Indian example of hierogamy resembling the Egyptian is that of Shiva with Minakshi at the Spring Festival of Madura.

An overlapping is plainly visible between the primitive human fertility-rite and the myth of the divine family noticed at the beginning of this article. The latter was founded on the very ancient idea of the life-giving Great Mother, discoverable as far back as in the mother-figures of the Aurignacian age: the male function in procreation had not been discovered. On its discovery the figure of the Husband was most probably added, on the pattern of human mating.

The rite as known to us was directed particularly to the growing of food-crops, but its physical nature surely proclaims its original object to have been animal increase and that it arose in a pastoral or even hunting environment; later, when cereals became the master-food, it was diverted to the needs of agriculture.

Here reference may be made to a theory of the origin of marriage put forward by Hocart in chap. v of his book on 'Kingship'; he argued from a mass of select evidence that it began with royal couples and spread with time to lower ranks—much as royal privileges did in Egypt. If that be so, it would almost follow that in certain broad regions of the world primitive hierogamy was the primary cause of the religious, if not the merely social, regulation of human mating. In Egypt, however, marriage contracts before the Ptolemies can only be inferred and there are no traces of an accompanying rite.

A very persistent feature of the myths surrounding the rite is the Dying God. It cannot have had any relation to a pastoral or hunting means of life and must have arisen within the agricultural stage, probably very early since it has a remarkably wide distribution, as, for example, to Mexico where the myths concerning

that Protean god of the Toltecs, Quetzacoatl, who was, like Osiris, a 'hero-reformer,' bear much resemblance to the Osirian. The conception of the dying god seems to have resulted from an application of sympathetic magic, the god dying with the seed which was his creature and rising again with its resultant growth of green—in Egypt there was a variant to be noticed below. It is possibly the source of the tale of the murder of Osiris: his followers, joining with the Horians, would adopt the body of their traditions in which a foremost place was taken by the bitter wars with the men of Set; a combination of the two myths may have resulted in the tragic tale as received by us.

Among the many variants proceeding from the primitive fertility rite, the Egyptian is most noticeable. Egypt did not know the principal agent in the rite as the beautiful young god who died seasonally but sprang up from death, year after year, when the winter-dulled earth awoke to the glorious uprush of a Syrian Spring; there the seasons took little part in promoting the farmer's prosperity which depended on the flooding Nile. Thus Osiris, as divine Lord of the Flood, became quite naturally the great god of fertility and replaced the minor personages, divine or not, who had functioned yearly in the generative rite. The fundamental character of the rite was not altered by this variation, which contained no reference to the Nile or flood, but followed the simple type of the widespread original, founded on human procreation. Moreover, the first rude image of a god, hammered out of stone, was that of Min, the god of generation; it is significant that he was also in charge of crops and was, further, foremost in the ceremony of the king's enthronement.

As to the person of Osiris—accepting the usual conclusion that he was indeed a person—he would appear from his name to have been of foreign origin. The hieroglyphic elements originally representing it were inverted in the course of time, perhaps to support some later theological notion which had become attached to the name; various efforts have been made towards an interpretation but they do not agree nor are they convincing. The original arrangement was phonetic and gave the pronunciation as known to us in its græcized form, and it is noteworthy that this pronunciation, in spite of the scribal inversion, was preserved by the populace and from them

Herodotus and his successors obtained it; the original name was strongly engraved in the people's thought and could not be erased.

This peculiarity in the name of Osiris recalls the want of definition in the names of Isis and Nephthys noted in my previous article, p. 171: the former took material shape in acquiring the attributes of the earlier Hathor, but the latter was only to be recognized in the crowd of goddesses by wearing as head-dress the hieroglyph of her name. As persons they seem to have been once almost as foreign to Egypt as was the goddess Kwanyin to China, who, from being originally a Buddhist saint imported from India, changing sex during the Sung dynasty, became for the populace the most beloved of all deities, fulfilling as she did a strong inner need for the common people who had little to hope for from the ancestor-worship so highly developed for the higher classes.

The Egyptian attribution of kingship to Osiris is perfectly clear, but its history unknown: it might be suggested that he was a foreign 'hero-reformer' accounted by late tradition as a divine king, or that he was welcomed by the Horians and acclaimed as king, being finally absorbed into their religious system as father of Horus. It might be asked if he was indeed killed and if so, by the men of Set, or was the odium fixed on them as the inveterate enemies of the tribe that had adopted him. Such are the questions that naturally arise, but answers are hardly to be expected.

Another detail is worth attention in the attribution to Osiris of the 'shepherd's crook.' Such an implement was unknown till about the Middle Ages of Europe; shepherds of old had their stout staves and fierce dogs for protection against wild beasts and robbers—the Roman *pedum* was not a crook but a bent club-like staff. Sheep were guided by the throwing of stones or turves, and even to-day a stone in a Spanish shepherd's hand is a dangerous weapon as with the bedouins of the northern rain-zone of the Egyptian desert, who call it 'white gunpowder.' Shepherds' staves of late medieval times were tipped with a miniature oblong spade with which to cut the turves they threw; a crook of a long narrow type was added later at the other end of the staff. The hook on a short handle of ancient Egypt, called *heq*, was far too wide and the handle too short for the management of sheep; it served

simply as sceptre for a ruler and, in hieroglyphs, meant 'king' or 'prince': it was much like the Roman herald's wand, which perhaps derived from it and thus it may be the far-off ancestor of our episcopal crozier. A true shepherd's crook is quite unknown in modern Egypt.

The other implement characteristic of Osiris is sometimes described as a whip and sometimes as a tool for gathering ladanum-resin. But it seems much more likely to represent a primitive flail composed of several cords, perhaps strips of leather, fastened to the end of a stick; on each cord was strung a series of hard substances, such as perforated pebbles or, more likely, short lengths of hollow bones. Such a flail would serve for the scanty crops of undeveloped agriculture before the harvest became, in later ages, with good organization, so large as to call for threshing by the hooves of animals. Such an implement would of course constitute an admirable symbol for the god in charge of crops.

The assimilation of Osiris with corn, and his absorption of the corn-god Nepri, are clearly put in a coffin-text of the Ninth Dynasty where the deceased declares his identity with Osiris, adding: "I live like Nepri; I grow in strength like Nepri; I clothe the earth; I live and die." (Lacau, *Textes religieux égyptiens*, LVII, pp. 105-6; LXIII, p. 110.)

A secondary feature of funerary practice, the dismemberment alleged by Plutarch (see p. 175 of previous article) has been usefully discussed by A. Wiedemann in chap. 5 of de Morgan's *Recherches sur les origines d'Égypte*: he has deduced from the Pyramid Texts that at least the head was subject to secondary burial, and on p. 219, following Koldewey, points to parallels with Babylonian funerary practices.

Brief remarks now follow on passages in my articles in MAN, 1937. On p. 155 (end of col. 1) the identification of Osiris with the Nile-flood is well indicated in the *Pyramid Texts* (pars. 25, 589, and 767) with the following invocation of the Osirified king: 'Thou art young in thy name "Young Water".' See also the Hymn to the Nile inscribed on a rock at Philae. (Junker, *Das Götterdekret über das Abaton*, p. 38.) On p. 156 (1st col., 3rd l.) the word ('joy') should be deleted; it was added as an alternative interpretation once suggested for the Egyptian word *was*. Power, or even good luck, is by general consent a

correct reading, and here we doubtless find the ancient Egyptian equivalent of *mana*. Yet the bestowal of joy also found a place in many inscriptions; an interesting psychological feature is in its phrasing as 'widening of the heart,' corresponding to the modern 'expansion of the personality.' The Egyptian of to-day also has his latent idea of *mana*; it is called *nefs* and is derived from the same root as *nefs* which, like its Hebrew equivalent *nephesh*, means 'breath' or 'spirit,' but in common usage expresses 'self.' *Nefs* differs from the *baraket* of Westmarck in referring to inherent personal *mana* while *baraket*, which means 'blessing,' is bestowed by special divine grace, though in Morocco, by contamination with pre-Islamic ideas, it may become hereditary, at least with Sultans. In Egypt too a similar contamination may be observed in the answer of convention which is given to a question about the health of someone who has just died: 'May the *barakeh* be in your life,' that is: 'may the *barakeh* allotted to him, but not enjoyed, pass on to you' (the grammatical final *t* becomes *h* in common speech). *Mana* is also recognized by Muslims, conformably with their religious beliefs, in material things. A talisman recently examined by me, engraved in beautiful Arabic script on an oval plaque of polished chalcedony, contained a number of conventional religious phrases and ejaculations, but ended with the expression, "God has created for everything its power" (*qadr*) which assured the wearer that it was endowed with inherent amuletic efficiency, the equivalent, in fact, of *mana*. It was probably made in Constantinople in the eighteenth or nineteenth century, when the artist seal-cutters of that city were renowned throughout Islam.

P. 156 (1st col.) and 175 (2nd col.). References to Isis as a falcon are found on the Osiris coffin of Rameses I as shown on a stele in the mortuary temple of Seti I at Qurna and in the hymn to Osiris, of the 18th Dynasty, translated on p. 143 of Blackman's translation of Erman's book on Egyptian literature, which provides the very definite lines: "she that afforded him shade with her feathers and with her wings created air . . . revived the faintness of the weary one, took in his seed, etc."

P. 170 (2nd col.). The idea of *shakti*, or female complement, has been preserved in modern China where the bridegroom, making his formal request for the bride's hand to the Elders

of her house, defines his object as 'to complete himself' (Nora Waln, *The House of Exile*, ch. vii, sec. 1).

P. 171 (1st col., 1st par.). Another feature in the duplication of Nephthys with Isis is her reputation as a sorceress exemplified in the texts of Middle Kingdom coffins, translated by Lexa in *La Magie dans l'Egypte antique*, II, 14-IV.

P. 171 (2nd col., 2nd par.). It should be mentioned that the suggestion of women's important share in the *Sed* ceremony was first made by Dr. Margaret Murray in MAN, 1914, pp. 17-23.

P. 173 (top of 1st col.). A passage published by Sethe in his *Dramatische Texte*, II, sec. 48, gives full support to the interpretation that the ceremony of 'raising the *djed*' was for the new Horus-king; the text records that the *djed* was solemnly raised, then lowered, during the ritual burial of a dead king and the enthronement of his successor.

The fighting mentioned at the top of the second column and recorded for other festivals by Herodotus (II, 63-4) still has a faint survival in modern Egypt where the countrymen commonly indulge in bouts of quarter-staff fencing at the fairs which accompany celebrations of the birthdays of local saints. Their usual long staff (*naboot*) serves as weapon; they do each other no hurt, the play is judged by points, its chief object being to break the opponent's guard. It may be surmised that in the explanation of the fighting proffered by Herodotus, concerning the attempt of 'Ares' on his mother, is to be found a misty reflection of the position of Horus as 'Bull of his Mother.'

P. 177 (1st col.). The spousal songs of Isis, as might be expected, were by no means only mournful; some expressed true bridal joy, as in the example published by Junker in his *Mysterien*, being the hymn sung in the first hour of the night-watch which contained the following words: "Recitation: Heaven and Earth unite themselves (*four times*); the God comes (*four times*) . . . beat the tambourine" and so on, and then, in the song itself: "Our master is in his house, there is no fear for him." This feature would account for the joyous singing of the *maneros* as recorded by Plutarch, *de Iside*, 17. According to Chwolsohn, in *Die Sabien*, II, p. 27, the Babylonian rite of Tammuz seems to have survived among the Sabeans of Harran in Upper Mesopotamia till the end of the tenth century A.D.

(see A. Moret, *Ann. Inst. de Philol. et d'Hist. Orientales*, III, p. 337; Brussels, 1935).

P. 177 (2nd col.). An excellent example of the Last Sheaf is noted by Nilsson; he says: "The 'power' which dwells within the crop of 'the year is embodied in the *panspermia* and the 'sowing cake' and through it is transferred to 'the people of the house and to the new harvest 'which will grow up from the seed of the old.'" Swedish 'Sowing Cake' is made from the grain of the Last Sheaf.

An interesting case of the generative rite has been found by Señor Palacios among the Pipil of ancient Mexico. It is quite exceptional since the Mexican custom was to impose continence as a prelude to important ceremonies, "and, among 'the latter', is still especially emphasized in 'connexion with the preparation of the land for 'sowing.'" (J. Eric S. Thompson, *Memoir No. 1, Division of Historical Research, Carnegie Inst., Washington*, p. 49 (July, 1941).)

The conclusion to which this survey seems to lead may be very briefly summarized. It would appear—one cannot of course make a more emphatic statement—that the primitive agricultural rite which became in Egypt Osirian was of far remote origin and widely spread, becoming most prominent in Hither Asia. It began with the figures of Mother and Son, to which that of Husband was later added, often coalescing with that of Son. It seems to have begun with a ritual mating of the heads of families or clans, of of special men such as *shamans*, with their wives, as a magical means of promoting human or animal fertility; on the rise of settled agriculture it was continued for the prosperity of crops; city-states being then developed, the rite was performed by the kings and their consorts, but not by them alone, for divine beings, now strongly individualized, were, as super-human protectors of their people, charged with this duty—sometimes, as in Mesopotamia, sharing it with the king.

The Osirian form was developed in Egypt in the early Gerzean period as a result of Sumerian culture, in its early strength, reaching Egypt,

which till then had been a land of undeveloped agriculture, still largely dependent for food on hunting.

With the final unification of the country, about 3000 B.C.—little earlier, if at all, according to recent calculations—and the rise of a temple-priesthood, the rite, in form, was modified to accord with the new political organization, but in essence remained purely agricultural. While the great rite was solemnized at Abydos, as chief centre of the Osirian cult, smaller local celebrations probably survived, with sacred figures of Osiris, supplied from Abydos, taking the principal part. May I add a hope that the attempt may at least, in the Coleridgian phrase, bring to the ghost of the Fertility-rite an 'accrescence of objectivity.'

NOTE.—The spelling *Set* has been adopted here in accordance with old practice. It is founded on the first form known, *ST*, which is used in the earliest literature, the *Pyramid Texts*. Like Egyptian words in general, it did not express the vowel which, to judge from later spellings, may have been long *u*. Modern Egyptologists prefer the German way of copying Greek transliteration, since it produces uniformity in practice whereas attempts to transliterate directly from the vowelless Egyptian lead to confusion. They have therefore adopted the spelling *Seth*, from the Greek *Σῆθ*; but the *t* and *h* must be separated, as perhaps they were in the old Greek pronunciation of *θ*, because the *h* seems to represent the Egyptian guttural *ch* (as in Scottish *loch*), another form of the name being *Sutech*.

G. D. HORNBLLOWER.

Corrigenda in former articles:

P. 154, 1st col., end of 1st par., read *theologischen*.

P. 172, 2nd col., 17th l.: the reference to Lanzzone should be p. 762, not 276.

P. 173, 1st col., 12 l. from bottom: for 230 read 157.

P. 175, 1st col., 11th l. from bottom: the first word should of course be *Isis*.

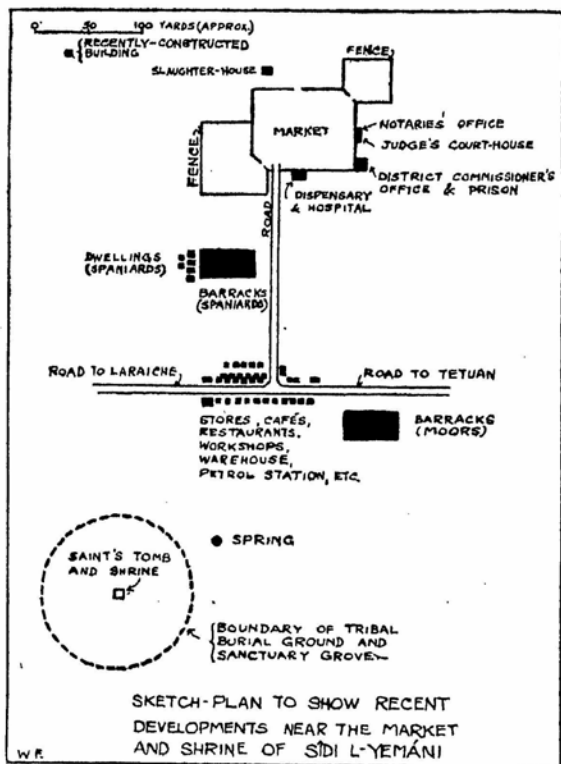
CHANGES IN THE LAY-OUT, CHARACTERISTICS, AND FUNCTION OF A MOROCCAN TRIBAL MARKET, CONSEQUENT ON EUROPEAN CONTROL. By Walter Fogg, M.A., University College of Wales, Aberystwyth.

72 The Monday market ¹ of Sîdi l-Yemâni ² is located on an undulated sandy plateau covered with dwarf-palm scrub, where centuries of weekly trampling had left a large patch of bare, sandy ground. The site is near the northern limit of the Hlot and Tliq tribal territories, and near those of the Mzôra, 'Amar, and Bdâwa, the latter small tribes having no markets of their own. Tliq, Hlot, Mzôra, 'Amar, and Bdâwa tribesmen, therefore, form an important part of the regular-comers. But in addition, Garbiya and Sâhel tribesmen from the lowlands, Bni Gûrfât, Âhl Srîf, Sûmâta, Bni 'Âroş, Bni Îder, Jbel Hbib, and Bni Mşâuwar tribesmen from the mountains, and townsmen from Azîla, Laraiche, and l-Qsar,

come regularly also.³ Thus, with a considerable radius of attraction, the market is an important one and attracts hundreds of people every week.

Changes in Lay-Out

Before the Spanish Occupation, there was nothing of permanence at the market site, nor any restriction on the amount of ground-space the market occupied. But there was traditional restriction on the location, within the whole, of its different parts, and the market assumed, consequently, a similar plan each week. The terms *dâhêl s-sôq* ('inside the market'), *tarf s-sôq* ('the border of the market'), and *bâr-ra men s-sôq* ('outside the market'), were in general use, without the parts to which they referred having any definite boundaries or being of the same extent or shape each week. With a few exceptions, traders and officials of one kind invariably sat together, forming a section of the market known as a *mûda'* (plur. *mwâda'*) and occupied each week a customary place, sometimes marked by stones. Officials such as the *şeh* (known as the 'master of the market') and *adûl* (notaries),⁴ were on one side of the *tarf s-sôq*; the slaughtering-place, butchers, blacksmiths, barber-bleeders, and sheep-roasting ovens, were in the *bâr-ra men s-sôq*, in order to avoid the dangers attendant on the congregation of *jnûn* (spirits) wherever there is blood, or fire and ashes; the animal vendors were near the outer border of the *tarf s-sôq*, in order to minimize dangers through kicking, butting, goring, etc.; and the charcoal-sellers occupied each week the same site in the *tarf s-sôq*, because of the avoidance of the blackened ground by other traders, on account of the idea of ill-luck associated with the colour black which contains *bas* (evil), and of the soiling of feet, garments, goods, etc., through contact with the soiled ground. The other groups of traders also formed their *mwâda'* in customary locations relative to each



¹ Fogg, W.: 'A Moroccan Tribal Shrine and its relation to a nearby Tribal Market.' MAN, 1940, 124.

² Transliteration of Arabic words is in accordance with the system used by E. Westermarck in *Ritual and Belief in Morocco*, Vol. I, pp. ix-xi, London, 1926, and the pronunciation is that of scribes of north-west Morocco, as far as I was able to appreciate the sounds.

³ See fig. 2, Fogg, W.: 'A Tribal Market in Spanish Morocco,' *Africa*, Vol. XI, 4, 1938, fig. 2.

⁴ For an account of the functions of these and other officials, see Fogg, W.: 'The Organization of a Moroccan Tribal Market,' *American Anthropologist*. (In course of publication.)

other, and within the limits of either the *dāhēl s-sōq* or the *tarf s-sōq*.⁵

Since the Spanish Occupation there have been great changes. Now, the main road from Azila, Lاراiche, and El-Qsar, to Tetuan, passes within two hundred yards, and there is a connecting road from this to the market centre. The water of the nearby spring has been led to the market site, and there feeds a drinking-trough for animals and a drinking-fountain for humans. There has been erected a permanent fence of concrete posts and barbed wire, which compels entry at only two places. The fence encloses a central space, used for most sections of the market, and two other spaces entered only from this, *i.e.*, the *fēddāq l-ksāba*, which is for animals being offered for sale, and the *fēddāq l-bhāim* which is for riding- and pack-animals not for sale. Permanent concrete tables for the sale of meat have been erected, while there is now a special building in which all slaughtering at the market takes place compulsorily. There are also several other new buildings; one containing the dispensary, consulting-, and operating-rooms of the Spanish physician; one in which are the offices of the Spanish District Commissioner, and a prison; and one in which are rooms for the work of the *qādi* (judge), and of the *hlāfat l-bāša* (tribal governor's representative). There are also two large barracks, one for Spaniards and the other for Moors, and in addition many trees have been planted. Finally, profiting from the new security and the continuous presence of many soldiers and others at the market site, a number of traders and craftsmen (Spaniards, native Jews, and Moors), have set up shops, warehouses, cafés, a restaurant, a petrol-station, small workshops, etc., which are open on every day of the week; with, besides, a few dwellings.⁶

Enclosed by its new fence and permanent constructions, therefore, contrary to conditions in the past, the market now has a constant boundary and shape, and occupies the same area each week. The terms in use in former times for the three principal parts of the market are still used, however, although with modified meanings:

the *bārā men s-sōq* is now sharply demarcated as the part outside the fence, and no longer means the part where are tethered the riding- and pack-animals not for sale; the *tarf s-sōq* is more clearly definable as the part near the fence on its inner side; while *dāhēl s-sōq* has similar application to that of the past, although the central part is now much more cramped than then.

Within the fence, every *mūda'* now has its fixed place, which is the same from week to week.⁷ Therefore, the plan of the market now, as far as location of *mwāda'* is concerned, is identical from one week to the next. In spite of considerable changes in location relative to each other, however, the location of some of the *mwāda'* remains similar to the location of those same *mwāda'* in the market of past times, and for the same reason, *i.e.*, the arrangement for the avoidance, unless one is obliged to go there, of *jnūn*-haunted places; although integral parts of the market, the *mwāda'* of the blacksmiths, barber-bleeders, and butchers, along with the sheep-roasting ovens, and the slaughter-house, are outside the market-enclosure, in the *bārā men s-sōq*.

Changes in Characteristics

(i) Before the Spanish Occupation it was considered shameful for any woman in her prime to be at the market. Yet there was sex-differentiation in a few of the *mwāda'*. Earthenware, olive oil, and bread, each produced in the tribal lands solely by women, and fresh green fodder, collected for sale solely by women, were usually sold at the market by women only. In addition, there might be a few women, generally old or widowed and without male economic support, in some of the other *mwāda'*, *e.g.*, those of butter, eggs, and live cocks and hens, the production or rearing of which is exclusively the concern of women. In general, however, the vast majority of vendors were men, and as buyers also were almost exclusively men the market as a whole was essentially a man's market.

One of the most important of recent changes has been the great increase in the number of women at the market, and this applies not only to vendors but, and even more so, to buyers. As to the vendors, commodities the production of

⁵ Fogg, W.: *Africa, L.c.*, fig. 3. A detailed plan of this market before the Spanish Occupation.

⁶ Fogg, W.: 'Villages, Tribal Markets, and Towns: Some Considerations on Urban Development in the Spanish and International Zones of Morocco,' *Sociological Review*, XXXII, i-ii, 1940, fig. 3.

⁷ *L.c.*, fig. 4. A detailed plan of this market since the Spanish Occupation.

which is the sole or part concern of the women, are now sold at the market mainly, if not exclusively, by women.⁸ Thus, live cocks and hens, eggs, cheese, fresh- and salt-butter, are now sold almost exclusively by women. Charcoal also is sold largely by women; they help their husbands in the making of it. Also even *šarēt* (palmetto-leaf rope), *qfēf* (a kind of basket), and wooden spoons, although still made by men, are now sold by women. In a number of other commodities, i.e., tanned sheep- and goat-skins, honey and beeswax, wool, vegetables and fruit, grain and pulses, it is now the tendency for men to sell when there is for disposal a quantity large enough to require pack-animals for its transport, but for women to sell when there is for sale only an amount small enough to be transported as a back-load. In Morocco, it is the custom for country women to do much transporting of quite large and heavy quantities of goods as back-loads; it is unusual for men to do this.

Finally, there are the new women vendors who are makers of men's and women's ready-made garments of imported European-manufactured fabrics, and some others who are makers of bread, who bring these commodities from the town of Azila. Even now, however, women still take no part in general commerce, therefore all the goods obtained from abroad (European-manufactured cotton-, silk-, and wool-fabrics; tea, sugar, candles, soap, and matches), and from other parts of Morocco (dates, dried fruits, spices, and condiments), are sold at the market solely by men.

One repercussion of this greatly increased number of women at the market is the new tendency for men to feel self-conscious when there, and on that account to stay away: thereby, this extensive social change is gathering further momentum.

⁸ Perhaps it should here be pointed out that, although not so at this market, in some of the markets of some of the tribes of Morocco all the women vendors are segregated in a specially reserved part (Montagne: *Les Berbères et le Makhzen dans le Sud du Maroc*, Paris, 1930, p. 251; Hanoteau et Letourneux, *La Kabylie et les Coutumes Kabyles*, Paris, 1873, Vol. II, p. 79). Moreover, in some parts of the country there are markets for women only, and to which it is forbidden for men to go (Montagne, p. 252; Coon: 'Tribes of the Rif,' *Harvard African Studies*, IX, Cambridge, U.S.A., 1931, p. 110; and Marruecos: 'Zona española, Alta Comisaria de la Republica Española en Marruecos, Intervencion y Fuerzas Jalifianas,' *Vademecum*, Ceuta, 1931, p. 190).

(ii) In the past, almost all vendors and buyers were Mussulmans, but in two *mwāda* there were native-Jew vendors from the towns of Azila, Laraiche, and l-Qsar; they sold Jewish-made footwear, or imported fabrics with ready-made garments made therefrom. Often also there was a native-Jew buyer of skins and beeswax. But the total number of Jews was insignificant. Since the Spanish Occupation, however, there has been a considerable increase in the number of native Jews at the market. There is about the same number of Jewish footwear-vendors as in the past, but the number of Jewish vendors of ready-made garments of European-manufactured fabrics has greatly increased; and the Jewish vendors of European-manufactured earthenware, glassware, enamelware, and tin utensils, have appeared only with the new security and transport.

So, too, have the native Jewish money-changers. Formerly, only Moorish coinage (Hassâni, etc.) circulated in the countryside. Now, although Hassâni money is still the coinage of the countryside; country people who are going to a town, or who have crossed one of the intra-Moroccan frontiers, often find it necessary to exchange coinage; since, in the towns of the Spanish Zone Spanish money circulates among both European and Moorish population, and in the French Zone, French-Moroccan coinage (Moroccan francs, etc.) circulates almost exclusively, whether in town or countryside, while in the International Zone all three currencies circulate, as well as English and French. Further, at certain times of the year Spanish money becomes indispensable, since taxes have to be paid in that coinage. Therefore, profiting from the fact that usury is forbidden to Mussulmans by Mussulman law, while some exchanging of coinage is essential under present conditions, native-Jewish money-changers from the towns are always present at this market now, with a marked increase in their numbers just before the times when taxes are due to be paid.

(iii) Except the special class working on behalf of exporting concerns in the ports (buyers of eggs, of beeswax and skins, of live cocks and hens, and of cattle), all the buyers were tribesmen of the surrounding countryside. But, as has been stated, the vendors included townsmen as well as countrymen. Many of these vendors, including craftsmen, made a round of markets (*d-daur*).

which usually lasted a week.⁹ A Mussulman, making such a round, would leave his home on the Friday afternoon, stay the night with a friend who lived near enough to the Saturday market for him to arrive in good time on the Saturday, leave early enough to spend Saturday night with another friend who lived near enough to the Sunday market for him to arrive in good time on the Sunday, and so on each day until the Thursday, when he would return home to spend Thursday night and most of Friday, the Mussulman rest-day, with his family. With the difference that they would be at their home for Friday night and Saturday, the Jewish rest-day, Jews, who were townsmen in every case, made similar rounds, as far as the conditions in the countryside would allow. In the part of Morocco in which this market is situated, however, Jews could not easily make a full week's round, as practically every market of the neighbouring Jbāla tribes was closed to them. The Mussulman vendors and craftsmen, however, whether townsmen or countrymen, went freely to any market, and the following made rounds regularly every week: blacksmiths, shoeing-smiths, barber-bleeders, footwear-repairers; vendors of reed-mats, of home-spun wool garments, of new footwear, of smoking-hemp and tobacco, of Moorish sweets, of dried fruits, of kerosene, of tea, sugar, candles, and soap, of spices; makers of sponge-fritters, of fried-fish, of cooked meat, of hot tea and coffee; and, in season, vendors of salted sardines, and of ploughing-materials. With the exception of some of the blacksmiths, barber-bleeders, and vendors of reed-mats, and the vendors of smoking-hemp and tobacco, and of ploughing-materials, all of these were townsmen. In addition, some Drāwa¹⁰ water-vendors, some entertainers (Ḥmādša, 'Esāwa, Ulād Sidi Ḥamad ū Mūsa, and 'āyāl),¹¹ and one or two folk-

doctors,¹² appeared at the market frequently, although less regularly than the foregoing since they tended not to restrict themselves to any particular week's round of markets. Thus, in many of the *mwāḍa*, the same vendors appeared regularly every week, while in some others, the same vendors appeared, but less regularly and at longer intervals than a week.¹³

Now, using motor-transport in place of the pack- and riding-animals of former times, more and more townsmen-vendors make their round by going to the tribal markets direct from their home every day, without spending the night in the countryside at all. Consequently, the links between this tribal market and the towns are becoming ever closer and more direct. Also, on account of the greater distances it is possible to travel within the day, vendors from more distant towns, including Tangier and even Tetuan, now form part of a few of the *mwāḍa*.

(iv) Finally there have been important changes as to particular *mwāḍa*. Formerly, there were at this market neither sellers of new pack-saddles nor repairers of old ones. Now pack-saddles are both made and repaired by two Mzōra tribesmen who regularly frequent this market, bringing new saddles for sale, taking orders for new saddles, and taking old saddles for repair by the succeeding week's market. Riding-saddles, requiring more skill in construction, are made and sold exclusively in the towns, even today. Thus now it is only rarely that countrymen who frequent this market go to a town to buy a pack-saddle, or to have one repaired. The explanation for these changes would seem to be the new sentiment of Moorish solidarity, with its more conscious resentment of the new prosperity of the native Jews, and a new determination to compete with the latter in callings such as this, which previously were considered specifically Jewish.

⁹ Fogg, W.: *Africa, l.c.*, fig. 5.

¹⁰ Natives of the Wad Drā region in southern Morocco: they specialize in water-finding, -conserving, and -carrying.

¹¹ The Ḥmādša are a fraternity, whose patron is Sidi 'Alī ben Ḥamduš, whose tomb is between Mequinez and Zārhūn. They give performances in which they dance to music, invoking the *jnān* (spirits), and end by chopping their heads with axes until the blood flows freely.

The 'Esāwa are a fraternity whose patron is Sidi Mḥammed ben 'Esa, whose tomb is in Mequinez. They are snake-charmers.

The Ulād Sidi Ḥamad ū Mūsa are itinerant acrobats; their patron is Sidi Ḥamad ū Mūsa, whose tomb is in Tazērwalt in southern Morocco.

The 'āyāl are dancing-boys who ape the behaviour of women; they are usually from Jbāla tribes.

¹² For an account of the medicines, charms, etc., sold by this trader, Fogg, W.: 'The Wares of a Moroccan Folk-doctor,' *Folklore* (in course of publication).

¹³ For changes in the *mwāḍa* with the seasons, Fogg, W.: 'Seasonal Change at a Moroccan Tribal Market,' *Geography*, Vol. XXV, no. 3, 1940.

Formerly, the *tálba*¹⁴ trading at the market sold only those garments they themselves had made; moreover, they sold only a very small range of garments, mainly of homespun wool. Now, besides selling fewer garments of their own making, they re-sell garments of European fabrics which they have purchased ready-made in the towns, and also sell a much wider range. Formerly, only native olive oil, and that mainly from the Jbâla country, was sold at this market, whereas now much imported olive oil and also cheaper substitute-oils are sold; also, the Jbâla brown soft-soap, *sabôn bēldi*, used to be the only soap sold, whereas now this is no longer to be had, as the Spaniards have forbidden its production and sale, in order to create a market for Spanish-manufactured soaps. Formerly there was no Government control of the sale of snuff, *kif*, or leaf-tobacco, which were sold by some ten men, while cigarettes and European-manufactured tobacco had not then penetrated the countryside. But in recent times, *kif*, snuff, cigarettes, and tobacco have been sold at the market only under Government control as tax-paying goods, for which there has been only one vendor, and he authorized by the District Commissioner. In the past, the only fresh fish sold was river fish, brought by pack-animal from the nearest rivers at certain times of the year, the only other fish being salted sardines. Now, with the new transport, lorry-loads of fresh sea-fish are brought regularly from Azila, Laraiche, and even Tetuan, while, for hygienic reasons, no salted fish at all is permitted to be sold.

Formerly, as the transport of heavy goods was done entirely by pack-animal, there were always

between twenty and thirty muleteers and cameleers, each with at least several animals (camels, horses, mules, donkeys) for hire. With the new transport conditions, however, the number of these has progressively decreased, so that now there are scarcely any, their place having been taken by native owners of motor vehicles.

Finally there were always, in the past, between five and ten charm-writers at the market; now these are no longer permitted, the Spaniards considering them an indirect cause of disturbances of the market peace. Likewise, because of their open excitement of homo-sexual passions, with possible ensuing jealousies, and disturbances of the market peace, acrobats (*Ulād Sīdī Ḥamad u Māsa*) and dancing-boys (*‘āyāl*), are no longer permitted.

Changes in Function

Control by Europeans has affected the function of the market, in the civil sense, in three important ways: (1) its importance in the administrative framework of the country has been greatly increased, *i.e.*, as the local headquarters of the civil administration of the surrounding countryside, so that control of a large number of villages is now achieved primarily from this market as their first point of control in the hierarchy of administrative centres; (2) its importance in the financial structure of the country has been greatly increased, *i.e.*, as a centre of revenue contribution; (3) it has acquired an important new function as a centre for the maintenance of the health of the country-folk: (a) compulsorily, through public hygiene (water- and food-inspection, hygienic slaughtering, inoculation, etc.); and (b) voluntarily, through private requests by the country-people for European medicines, surgical supplies, etc. Finally, through the large barracks alongside, the market has also acquired a further new function as an important key-point in the military organization of the country.

¹⁴ *Tálba* (sing. *tālīb*) are persons who, by passing through the Koranic schools, have come to know the Koran by heart. They frequently sold woollen garments made by themselves as a means of livelihood during continued studies. Garments bought from them were considered to possess *baraka* (holiness) on account of their makers' familiarity with the holy book.

METHOD IN SOCIAL ANTHROPOLOGY AND PSYCHO-ANALYSIS. By Dr. Géza Róheim.

73 I have given way to the temptation to write these remarks after reading a paper by one of the great representatives of classical anthropology.¹ The psycho-analyst is in a rather difficult position in discussion with his fellow anthropologists, who, however, are not at the same time psycho-analysts. I am always in favour of mutual understanding and not naturally addicted to controversy. Therefore I will begin by trying to explain this difficulty. I ask any anthropologist to imagine for a moment that he has accepted the psycho-analytical views on the functioning of the human psyche. The very essence of psycho-analysis is the view that the Ego is differentiated from the Id by the mechanism of repression and other defence-mechanisms. To put the same thing into less technical language, this means that human beings in general have strong emotional and affective reasons for not wanting to know themselves. Supposing then that Professor N. or Dr. X (meaning any anthropologist) were a psycho-analyst, who is convinced of the truth of this science and practises it daily for a number of hours, would he, or would he not, enter into discussion with non-psycho-analysts, who *ex hypothesi* can not see the things from our point of view?

Naturally he would not. What I mean to say by this is, that when I do not answer critics it is not because I have nothing to say, but for other reasons. This note is an exception and the reason why I have made this exception is not because I wish to stress the esoteric nature of psycho-analysis—although here and there I can not help it—but because I wish to dispel certain misunderstandings.

1. *Independent Origins*.—Whenever two customs or ideas occur in areas wide apart, they are regarded by the followers of various 'diffusionist' schools as proofs of ultimate connexion between these areas. Gräbner, one of the protagonists of the German variant of this way of thinking, declares (*Die Methode der Ethnologie*, 1911, 107) that we are only justified in assuming independent origins after the 'dauernde Unmöglichkeit' of proving cultural contact has been established. Similar views are

quoted by Westermarck (*l.c.* 228). I think I can supply the diffusionist with just the thing they need. Many years ago I saw some psychotics in the Budapest Lunatic Asylum. One of them thought that by moving his head he could influence the sun, another was performing *intichiuma* ('increase') ceremonies by rubbing his body, just as the Aranda rub the *tjurunga* which is regarded as the other body of the initiate. Indeed psychiatrists have often emphasized these similarities, but notice has not been taken of this evidence by the diffusionist school, thus showing once more that fundamental element in the human mind; the capacity to overlook unpleasant facts. When a patient brings a dream in which evil influences are represented in the form of objects introduced into the body by enemies and sucked out by the psycho-analyst,² and, when the possibility of that patient knowing anything about the practices of savage medicine men can be completely excluded, we have a clear case of *Elementargedanke* against which even the most extreme diffusionist can have nothing to say. The father, symbolized by a totem in the dream of a patient, cannot be attributed to the 'borrowing' of savage customs who, as we know very well, call certain animals their fathers. Nobody, perhaps, will allege that obsessional neurotics avoid certain actions, because they have heard of savage taboos; or that the Melanesians observe the taboos because they imitate European neurotics. In this case psycho-analysis should be an ally of the evolutionist school.

2. *Survival and Substitute*.—Westermarck discusses the question of the methodological criteria of survivals. "I think that in this respect two definite rules may be laid down. An obvious one is that a custom must not be interpreted as a survival of something of which it can not be a survival. From a logical point of view this rule is, of course, a sheer platitude, but it has nevertheless often been transgressed. For example, circumcision as an initiation rite has been represented by psycho-analysts as a survival of, and substitute for, an earlier act of castration. This is absurd, considering that castration could at most have only taken place

¹ Westermarck, Edward: 'Method in Social Anthropology,' *Journal of the Royal Anthropological Institute*, 1936, p. 223.

² Communication made by a pupil of mine.—Dr. Schönberger.

"in rare cases, whilst initiation rites, where they occur, are general. Or circumcision has been said to serve the purpose of punishing and preventing incest. But its generality as an initiation rite also makes it impossible to take it for a punishment; and as a means of preventing incest it would be useless. It cannot prevent it by inspiring fear where it is performed anyhow; nor does it produce physical incapacity for performing the forbidden act" (l.c. 234).

This long quotation should really be cut into two parts: (a) Circumcision cannot be regarded as the survival of a castration rite because the latter can never have been general. (b) Circumcision cannot be interpreted as a punishment for, and prevention of incest because it is general and because it does not actually prevent anybody from performing the sexual act and therefore from committing incest.

Let us take the second proposition first and we shall immediately notice why Dr. Westermarck cannot understand psycho-analysis. A general institution (he says) cannot be a punishment, because a punishment deals with specific cases, i.e., with a definite criminal. Now the Aranda and other Central Australian tribes know better. Initiation rites must be performed because an uninitiated youth would be transformed into an *erintja* (demon) and he would eat all the old men of the tribe. A general tendency of aggression is therefore recognized, and the rites are regarded as institutions that deal with this aggressive tendency. The world of Professor Westermarck's arguments is a world without psychology. When a psycho-analyst interprets a rite as punishment, he does not mean exactly the same thing as a lawyer would mean, i.e., a legal and specified punishment for a certain offence, but (in the case of initiation rites) the unconscious reaction of the elder generation to the unconscious tendencies of the younger. Nobody will doubt that elder men frequently feel irritated by the growing-up of the next generation—that a director in a bank may dislike the idea that the time will soon come when he will have to resign and a younger man will get his job. Old Wapiti used to yearn back to the days when he was a young and strong man; does anybody think it possible that he should not, either consciously or unconsciously, feel some kind of hostile sentiments against those who

are as strong and healthy to-day as he was in bygone years?

The second half of the sentence quoted from Westermarck above shows a similar, all too matter-of-fact attitude. The point at issue is not whether initiation ceremonies prevent anybody from committing incest, and still less whether they prevent anybody from having intercourse. The non-attainment of a purpose does not prove the absence of a tendency. Psycho-analysis has proved its case if it can demonstrate: (a) the manifestation of hostile tendencies on the part of the elder generation; (b) the association of initiation rites and incest phantasies (myths or dreams); (c) the castration-symbolism of the circumcision rite.

Let us look at initiation from a behaviourist point of view. The boys are beaten or tortured, a tooth is knocked out, or something painful is done to the genital organ. They are subjected to all sorts of privations, and in general put into a state of abject terror. It is true that the members of the elder generation do not openly admit the hostile tendency of these proceedings. If we believe that all our motives are conscious, we shall regard this part of the argument as refuted. Dr. Westermarck would probably take this view. But I should like him to understand that the psychologist does not deduce his view of latent hostile tendencies in these rites merely from the rites themselves. We know that all severe 'pedagogical' measures contain also elements of latent hostility, besides others, as, for instance, identification. We know this from practice, from experiment. It is not as if those who hold the opposite view could rely on other experiments with a different result. They simply represent the unscientific views of the 'man in the street.' At any rate, our Pitjantara boy did not regard the proceedings with favour. He made attempts to bolt, he cried when he saw his circumcised penis, and after having seen the first ceremony he thought the men would probably kill him. We know also that the men are themselves behind the scene when the bull-roarer is sounded. In this case the purpose of the rite is admittedly to terrify the uninitiated, and as the men play the rôle of the hostile bogeys, we can not doubt that it is a hostile tendency that prompts them to do so.

As for the association of initiation-rites and the Oedipus complex I may again quote the Fan

myth of how the Son of the Crocodile, aided by his human mother, killed his father the crocodile.³ He used a big stone knife to cut the corpse, and similar knives are used today to circumcise the boys.⁴ In a Ngatatara myth of the owl totem, told by Wapiti, the origin of the final phase of the boys' initiation-ceremony (nankuru), and the initiation of the girls, is derived from the *Ngurri* (owl) ancestor, who lived with his two daughters as his wives.

The third thesis we have to prove is that circumcision symbolizes castration. And here I should like to make a clear distinction. I do not assert that circumcision is a survival of castration. It may be that in pre-human times battles were fought between the old and the young males of the horde, and that in these battles direct attempts were made by both parties to castrate their opponents,⁵ but even this is pure speculation. Of course I do not believe in actual castration as an initiation rite. What we can prove, however, is that castration-anxiety is associated with the problem of growing up, and that the latent tendency in the ritual is to castrate the growing generation—although this latent tendency is counterbalanced by other tendencies, and thus results in a harmless operation performed on the penis, i.e., in circumcision. First I will take a clinical case. The patient, a married man of thirty, a clerk in a bank, suffered (when he came to be analyzed) from the idea that his penis was too small. He has overcome this at the time of the dream, but he is still troubled by a tendency to get into trouble with the managers of the bank. This is his dream: "I have been made king by the Members of the Royal Academy. After this I go up a hill where I am attacked by a giant. I am afraid that he will kill or castrate me." Being made king means finishing his analysis, and the members of the Royal Academy are the analysts. The giant represents his elder brother who used to bully him especially when he found out that he had stolen some pence from his father. From petty thefts the associations go to onanism. The hill reminds him of the place where his sister

was married, and of her trying to tempt him to have intercourse with her when they were both children.

Can there be any doubt about the castration symbolism underlying the rite of circumcision in view of Lelil-tukutu's dream? Today he is one of the initiators, but in his dream he goes back to the time when he was initiated. And this reminds him of what he dreamt when he was a novice. "On the eve of this ceremony he dreamt that his whole penis had been cut off and waking in fearful anxiety he dared tell no one of it. He had the same anxiety on waking from this present dream; but he gripped his penis and found it there to his immense relief."⁶ Pitipiti was an old Pitjantara, senior to the great chief Pukuti-wara, and (as such) one of the leaders of the ceremonies. On the 22 August, 1929, while the ceremonies were going on, he dreamt of a man without a penis who was his 'classificatory' son. This needs no explanation. Analysts have had any amount of experience with Jewish patients, and in every case the fact of being circumcised, amounts, in the unconscious, to a symbolic castration.

Psycho-analytic anthropology has two aspects; functional, and genetic or evolutionary. If I say that initiation ceremonies are socialized or institutionalized representations of the Oedipus complex, of castration anxiety and super-ego formation, this might be called the functional aspect of psycho-analytic anthropology. The functional conclusions are beyond a doubt: they are based on clinical experience. But if I regard these rites as survivals of certain pre-human conditions this would be the evolutionary aspect of psycho-analytic anthropology. The second type of argument is avowedly speculative, and may be right or wrong. To regard a custom as a survival of something is evolutionary; to interpret it as symbolizing something, or being a substitute of something, is functional. In the case of historical (evolutionary) interpretations we have to assume the existence of a collective memory or unconscious, but if we interpret 'functionally' we can do without this assumption.

3. *The Oedipus Complex, the Family and the Unconscious*.—Westermarck says (*l.c.* 234), "The interpretation of customs as survivals is also

³ Róheim: *Riddle of the Sphinx*, 1934, p. 191.

⁴ Trilles: *Le Totémisme chez les Fan*, 1912, p. 200.

⁵ I note that Dr. Westermarck does not seem to attribute particular importance to Zuckerman's 'primal horde' evidence: cf. Westermarck, *l.c.*, p. 224, and *Riddle of the Sphinx*, p. 192.

⁶ Róheim: *Riddle of the Sphinx*, pp. 117, 118.

"very prominent in the Freudian theory of the "Œdipus complex, as a universal human characteristic. As such it requires, of course, "a great deal of confirmation from other sources "besides psycho-analysis." Dr. Westermarck mentions the fact that psycho-analysts have indeed interpreted customs and myths as "vestiges of an original incest desire," but Dr. Westermarck disposes of all this "since they" (*i.e.*, the customs and myths), "are perfectly "explicable without the assumption that there "was any such desire."

Dr. Westermarck thinks that the evidence supplied by clinical psycho-analysis alone is insufficient. Why? He has no experience of psycho-analysis, either actively or passively, and therefore no insight into the nature of this evidence. Of course, somebody might say that the evidence applies to European races alone. In this case psycho-analysts can reply either by collecting evidence from the customs and myths of non-European races, or by applying the psycho-analytic method of investigation directly and personally to the representatives of these races. This is what I did when I was in the field, to the great indignation of Professor Westermarck. "The Freudian Œdipus complex has been applied "as a matter of course to grotesque psycho-analytical experiments made on Australian "savages" (*l.c.* 247). I will quote only two passages from this 'grotesque' work of mine.

The children are playing with dolls and toys I gave them and various rôles are attributed to the dolls. One of these dolls, a monkey, is called an old woman by Depitarinja and then identified with his foster-mother. What happened after this was a most conclusive and straight-forward demonstration of the Œdipus complex. The little boy got hold of the snake and put it into the monkey's breast. "The snake drinks milk." Then he rammed the snake's head in between the monkey's legs; "the snake cohabits with the monkey."⁷

Kanakija, a Mularatara woman, went to the bush to get lizards. They tasted bitter when she ate them, and that night she had a dream. She saw a man, he came quite near, and then he disappeared. The man had gone into her womb

and she knew she had a child. The ancestor in the dream looked like her father. In another conception dream, her father chases her. If a man 'chases' or 'frightens' a woman in Central Australia, this can only mean one thing: that he wishes to have intercourse with her. "The "totem of an Aranda or Luritja is determined by "a thinly-veiled incest dream of his mother."⁸

However, I know very well that all this makes no difference to somebody who will not accept psycho-analysis for reasons of his own. Just as a question of logic I should like to know what kind of evidence would be sufficient. The interpretation of customs is rejected because these can be explained on basis of other assumptions. Obviously this is possible; we can also reject electricity as an explanation of certain phenomena because the lightning can be explained as the arrow of the Sky God. Dr. Westermarck thinks that when he draws certain conclusions with regard to the reasons of human behaviour, these conclusions are unhampered by assumptions of any kind, whereas they are based on the assumptions of a rationalistic psychology. If every man knows why he does this or avoids that, if there is no unconscious, and no science of psychology, the arguments of Professor Westermarck hold good.

Another great mistake is that psycho-analytic anthropology is based on the evidence of custom and myth. It is *applied to this material*, but it is based on clinical evidence. This means that the psycho-analytical explanation of anthropological data is correct if psycho-analysis is valid in the main, not that we are trying to prove the validity of psycho-analysis by anthropological data.⁹ This methodological difference makes a considerable part of the argument superfluous. Yet I will just mention one point where Westermarck seems to have scored against the interpretation of certain taboos given by psycho-analysts.

Westermarck says that the rigour of laws against incest does not indicate the strength of the temptation to transgress these laws, because the severe laws against bestiality do not prove that a large number of men desire to copulate with

⁷ Róheim: 'Psycho-Analysis of Primitive Cultural Types,' *International Journal of Psycho-Analyst*, XIII, p. 24.

⁸ Róheim, *l.c.*, p. 45.

⁹ The results of my field work, quoted above, are, however, to be classified as clinical evidence in this connexion.

animals (*l.c.* 236). However, it happens that while all primitive people have evolved a social system based on the prohibition of incest, few of them have laws against bestiality which is frequently regarded as the humorous weakness of certain individuals, but not as an act that threatens the whole social system.

There are also many passages in Dr. Westermarck's paper with which I agree. To mention only two of these: it is obvious that, in opposition to Radcliffe Brown, every sociological

explanation must be a psychological explanation, as a society consists of individuals (*l.c.* 237). When Dr. Westermarck stresses the decisive importance of the family, and of our prolonged infancy, for the evolution of the human species (*l.c.* 224) I am tempted to call attention to my book on *The Riddle of the Sphinx* in which I have put forward the same theory of human origins on a psycho-analytical basis, and am sorry that in this book I overlooked the fact that this theory was supported by Dr. Westermarck.

[The Editor regrets that it has not been possible to submit proofs of this communication to the author.]

PROCEEDINGS OF INSTITUTIONS

CHINESE CERAMICS AT THE BUFFALO MUSEUM OF SCIENCE.

74 An exhibit of Chinese ceramics, starting with prehistoric times (3000-1800 B.C.) and ending with the Sung Dynasty in A.D. 1280, was formally opened in the Buffalo Museum of Science (Buffalo, N.Y.) on 1 July, 1941, under the presidency of Mr. Chauncey B. Hamlin, director of the Museum and president of the Buffalo Society of Natural Sciences, with talks by Mr. Henry R. Luce, editor of *Life*, *Time*, and *Fortune*, and Dr. Chih Meng, director of the China Institute in America, New York. The exhibit will be on display for three months.

This chronological display, coinciding with the nation-wide appeal for United China Relief, Inc., is designed to focus attention upon China and her cultural contributions to the world. It comprises 199 examples of ceramics made by Chinese artisans during a period of three thousand years. Here can be seen the work of the Chinese potter from his earliest efforts in his art to the first traces of the use of glaze and its development, from the invention of porcelain to his achievement of perfection in the lovely Sung wares.

The exhibit is supplemented by the Museum's collections of early Chinese jades—Shang, Chou, and later—and Shang, Chou, and Ordos bronzes, as well as noteworthy Chinese objects loaned for the occasion, including Chinese mirrors from

Chou through T'ang; Kansu pottery, Chinese sculpture, and other distinguished objects. Of special note is the set of ten large porcelain figures (about 3 feet high) of dignitaries, guardians, demons, horses, and camels in a tomb retinue. It is from the T'ang Dynasty (A.D. 618-907), and is believed to be one of three such complete sets in the world.

Mr. Luce, born in China and recently returned thence, outlined the outward changes in Chinese people and manners, summing the great recent changes, the rediscovered love of their country revived from the Sun Dynasty, and the new sense of the individual's importance brought about through widening horizons. He expressed his belief that the United China Relief Campaign is the basis of a better understanding between China and the United States of America, and conveyed Generalissimo Chiang Kai-Shek's thanks for the gift of American friendship.

Dr. Meng related how China has outgrown militarism, dictatorship, and intolerance, and has found that the democratic way of life is after all the best way. "It is most significant," he said, "that the people of Buffalo should exhibit this phase of Chinese art to remind us that in a day of harsh materialism there are still other values in our world cultural heritage."

REVIEW

OCEANIA

Hawaiian Mythology. By Martha Warren Beckwith.
 75 New Haven: Yale Univ. Press. London: Oxford Univ. Press, 1940. x + 575 pp. 30s.

Mythology is a two-faced Muse, turning one face towards the child, clothing its wisdom in simple imagery, and the other towards the sage who has the insight to understand its hidden meaning. It is a sign of the gross misunderstanding of religion in our time that this dual nature is often forgotten, and that the two aspects, instead of being understood as going hand in hand, have become split, the child-like story being often regarded at best as mere poetic imagery, and its esoteric meaning having become stereotyped in the attempted logical statements known as dogmas and creeds.

Among simpler and more spiritually-minded folk this is not so. With them, what the child learns at its mother's knees or from the lips of its comrades, as literal if somewhat fantastic fact, gains by degrees during initiation, and progressively during his maturing years, a meaning undreamt of by the child, yet inexpressible in concise terms except by means of the symbol. For no spiritual fact can ultimately be conveyed in words, but only by means of imagery, since it belongs not to the realm of logic but to that of religion, which is beyond all logic.

Some religions, such as those based on a mythology in which the home of the dead is underground, envisage the salvation-process as coming from below, while others, notably the newer religions, conceive of it as coming from above, expressed in terms of sky or heaven. The two views are not contradictory, because, like the material universe, the process of spiritual regeneration is ultimately circular, the very high becoming the very low and the very low becoming the high, terms based on physical nature signifying deep psychological truths. This is the view held, to take but one example, by those peoples who think that the sun-god (representing consciousness, or the moral law), after sinking in the west travels by night across the nether ocean (representing the unconscious, or law of instinct), before rising at dawn and mounting once more upwards into the sky, only to sink and rise again in an endless series of revolutions, each revolution combining two mutually opposite elements.

For all peoples the divine element is the conscious union of opposites. For Christians it is the union of God and Man. For those having a sun-deity it is the moment, equally impressive in nature and in the spirit, when the sun emerges at dawn and when it sets again at even. Of the two moments the first represents the emergence of enlightenment out of material chaos, and the second its equally necessary reunion with earth. Thus in Hawaii the male deity is god of the heaven and of the rising sun, and his wife Hina (woman being for man the function of relatedness with the material world) is goddess of earth and of the sun at eventide, when he once more comes down to the ground.

Dr. Beckwith, however, is not one of those who see behind the facade of child-like imagery to the deep truths that lie behind. Only in a few cases does she mention almost in passing that the myths have a symbolic meaning, as when, on p. 304, she quotes the Hawaiian belief that "land forms arise as the material body of the spirit which informs them and which is in effect a god with power, in some cases, to take human forms at will." Even this is spoilt by the typically western viewpoint that "it is the belief in the animate

"nature of land forms which gives poetic integrity to the conception and raises it above a mere poetic conceit." Is, then, the first chapter of Genesis, in which chaos is resolved by the separation of land from water, namely, of the conscious from the unconscious, no more than a poetic fancy? And does not the tale of Maui fishing the first island out of the sea mean the same thing? And is not Christianity founded on God having the power to take human form, and so finally to redeem mankind by uniting in spirit the opposites separated out during the first creation?

To those familiar with the nature of dreams, which are the myths of individuals as opposed to those of races or religions, in which the sea represents the dark feminine principle both in its benign and terrible aspect, and light represents the male principle of cognition, the symbolism of these tales is clear. So also "the Polynesian mythical conception of a dark formless spirit world presided over by the female element and a world of form born out of the spirit world and to which it again returns, made visible and active in the human life through light as the impregnating male element" (p. 306).

It is by means of concepts such as these, accompanying material advancement, that mankind has raised itself above the level of the beasts, and in primitive times acquired a spiritual power that has been largely lost by modern man, which modern man is in sore need to recover. A case in point is one quoted on p. 273 of how, in Tahiti, after due prayers and propitiatory offerings to the spirit of the forest in which a canoe has been hollowed out, the hewers, instead of laboriously dragging it down to the shore, would sit inside and "the canoe would go down the mountainside of its own accord." This is no mere wish-fulfilment fantasy, but represents the solid fact that by prayer and sacrifice man does acquire supernatural strength, so that in this case the hewers' work was so lightened that it was indeed to them as if the canoe went down by itself.

The authoress does indeed make some attempt occasionally to seek a broader basis than that of the mere narration of mythical tales, as when she suggests a correlation between the "Romance of the Swimmer" (the Aukele romance) with the world-wide mythological cycle known as the Jason type, the component elements of which she analyses in the manner employed by Hocart in his great work on *Kingship*. But here the matter ends, and the true meaning of the cycle as representing a redemption-process known to analytical psychologists as the "Night Journey under the Sea"—in other words man's attempt to probe the secrets of his own inner nature—is neither perceived nor yet suspected.

This is a pity, for one of the great contributions that anthropology could make—but has not, except in rare instances, yet made—towards our understanding of the processes that have gone towards man's acquisition of power over himself, is precisely by means of mythology, conceived as the expression of the soul of a people, indicating its needs as well as its achievements, as dreams perform a similar function in the lives of individual men.

For those interested in mythology as a kind of artistic creation, however, or as evidence of the contact of peoples, this work should prove a useful handbook, since it is well written, with plenty of humour and the lively appreciation of detail to be expected from one who has spent her childhood among the entrancing scenes of this well-known archipelago.

The book is divided into four parts. Part I deals with the Gods: Ku and Hina, the high gods Lono, Kane, and Kanaloa, and some of the lesser gods, particularly those deified ancestors associated with the worship of Kane, whose function it is to protect their descendants. It is these last who preside over the practice of sorcery by means of which family prestige was formerly largely maintained. Part II deals with the Children of the Gods such as the Pele sisters and the ubiquitous Maui, as well as a number of lesser known figures.

Part III is devoted to legends concerning the divine origin of chiefs, migrations, and the supposed pre-Polynesian inhabitants of Hawaii, known as the Mu and Menehune people. Lastly, under the very western title of "Heroes and Lovers in Fiction," Part IV includes a medley of tales in somewhat lighter vein including a number of Riddling Contests as well as a final chapter on Wooing Romances.

The book is well reproduced, and contains a long list of references and a good index. JOHN LAYARD.

CORRESPONDENCE

The Early Smithfield Culture of Kavirondo (Kenya) and South Africa.

76 SIR,—In *The Stone Age Cultures of South Africa*, by Goodwin and van Riet Lowe (1929), the latter gave a detailed description of the Smithfield Culture.¹ At that time three phases of the culture were distinguished; these were named A, B, C; A being suspected to be the earliest. During the intervening twelve years, further research suggested that there may be six divisions.² Nevertheless, the phase described as Smithfield A in 1929 is now generally recognized as the earliest division of the culture. The first description still holds good.

Because the assemblages that characterized this, the earliest true blade culture recognized in South Africa, were found only in the Upper Orange and Vaal River catchment areas, the Smithfield Culture was regarded as something local—possibly an autochthonous development. This view was held until, a year or so later, the culture was found on the Limpopo, about 400 miles north of the most northerly Free State site. From 1928 up to the present many field-workers (most notably Burkitt, Leakey, Neville Jones, van Riet Lowe) kept a special look-out for Smithfield material in the territories north of the Limpopo—but to no avail.

In July, 1939, I discovered a Rock Shelter among granite tors at a place called Nyarindi, in the Seme Location of Central Kavirondo, Kenya. The deposits are from five to six feet deep, and the main element is a culture which includes bored stones, hammer-stones, pounders, upper and lower grind-stones, duckbill-end scrapers (generally large), concavo-convex, hollow, and side-scrapers, trimming-stones and broad flakes probably used as cutters or knives. Also a few Kombewa flakes. The scrapers are characterized by very steep step-flaking.

A series of specimens has been sent to Professor van Riet Lowe, the Director of the Bureau of Archaeology of the Union of South Africa, who now writes "I have no hesitation in describing the Nyarindi rock-shelter material as Early Smithfield." This short preliminary note is no place for a long description, but it is of interest that Lowe writes: "We have a long way to go, but into our present darkness Nyarindi introduces a faint glimmer that is, I feel sure, destined one day to throw a vast flood of light on this most intricate problem."

South Africa has many sites of the Smithfield culture,

but none had yet been found in a sealed site. Therefore, the Nyarindi Rock Shelter is of especial value. Further, a comparison of tools from the shelter with many in my Kavirondo collections demonstrates that Early Smithfield elements are scattered over a wide area of Kavirondo. Of special interest is the fact that some Smithfield flakes from the Shelter are associated with cores of a Levalloisian type.

The Kavirondo material would seem from stratified deposits to antedate the period assigned to the Early Smithfield in South Africa. W. E. OWEN.

Kisumu, Kenya.

'Married with their Feet in the Water.'

77 SIR,—There is an old saying that those married at the altar of Llanllwni Church are 'married with their feet in the water.'

For a long time I was unable to understand the meaning of this saying, which I saw reflected in a story called *Ia* by 'Q,' where an old gypsy-woman married a man and woman when standing in a stream on a mountain in Cornwall according to the ancient rites of these oriental people.

'Q' gives no explanation of this water ceremony, but I have since found out that it is a very old rite associated with the fertility rites of the Sun God and the Earth Goddess.

The early Celts worshipped the Sun God and the Earth Goddess with rites very similar to those of Adonis and Astarte in Syria. In Syria the dying God Adonis is wounded in the side on the Lebanon mountain, and his blood poured forth into the river and so coloured it as to intensify its fertilizing powers. In pictures this increase of fertility is shown by the presence of fish in such a river.

The church of Llanllwni stands on a striking promontory, at the foot of which runs through a narrow gorge the river Teifi, noted for its salmon and trout; and in Celtic lore the former is spoken of as 'the salmon of wisdom and knowledge.'

In former days steps extended from the altar of this church down to this fertilizing river, so that people married here could be said to be 'married with their feet in the water' with a justifiable hope that they would be blessed with a large, strong, and healthy family.

On this same promontory to the east of the church are the remains of an old mount castle surrounded by a ditch. Near by is Castell Pyr, another old promontory fort, and the old Sarn Helen runs through this parish, which must have played a very important part in the life of the early Celts. G. ARBOUR STEPHENS.

¹ *Ann. S.A. Mus.*, XXVII, 1929, pp. 151-234.

² van Riet Lowe, C., 'The Archaeology of the Vaal River Basin,' *Geol. Memoir* No. 35, Govt. Printer, Pretoria, 1937.

Squoyles or Bleeding Mallets? Cf. MAN, 1941, 57.

78 SIR,—The objects figured by G. B. Gardner (MAN, 1941, 57) are the mallets used in the old days by farriers in bleeding horses—a common remedy for 'full-blooded' animals, just as it then was in the human species, as shown by the bleeding bowls and leech jars in our museums.

When bleeding a horse, a blood vessel in the neck was held with the skin pressed tightly around it. The point in the blade in the 'flem' (an instrument with three different sized triangular projections from the blades) was then placed in position, and with a sharp blow from the mallet the skin and blood vessel were both penetrated. The bleeding was stopped by applying a handful of cob-webs taken from corners of the stables. To assist in the sharpness of the blow the mallet was usually weighted with lead, brass, or iron.

One set of brass flems, which we have in the Hull Municipal Museum, inscribed "Jo. Worthington. Old Trafford. 1777," came to us together with a mallet almost identical with No. 1 in the figure in MAN. It bears the impression made by frequently striking the flem, as can also be seen on Gardner's No. 3. Another, with a ribbed handle like a constable's truncheon, is shod with a ferrule of brass.

When the primitive method of bleeding was obsolete, the mallets, as with other objects, became scarce and their use was forgotten. They may then have been used for throwing at rabbits, or, as I have seen, for cracking coconuts. Half a century ago a farmer uncle of mine, in North Lincolnshire (who, like all country farmers, was a 'bit of a farrier') used a discarded bleeding mallet for throwing at a fowl in the farmyard when one was wanted for the cooking pot!

It then became a 'squall' or throwing stick, a name now used for the sticks for throwing at skittles and 'Aunt Sallies.' From what I know of my Hampshire friends, they would probably pronounce what a Yorkshireman would call a 'Squall,' as 'Squoyle.' But the 'squoyles' were mallets first.

Director, Hull Municipal Museums. T. SHEPPARD.

Squoyles and Squailer. Cf. MAN, 1941, 57.

79 SIR,—The Wiltshire-Somerset word is *Squailer* derived from the verb "Squall" or "Squoyle," "to pelt with sticks or stones"; see Joseph Wright, *Dialect Dictionary*. The *squailer* was a favourite weapon of the poaching gangs of 'collegers' in the early days of Marlborough, in forays after the Marquess of Ailesbury's deer in Savernake Forest. The approved method of making a *squailer* was by dipping an ash sapling in a tea-cup filled with molten lead; see Richard Jefferies, *The Amateur Poacher*. F. DANIEL.

Squoyles in the New Forest. Cf. MAN, 1941, 57.

80 SIR,—In MAN, 1941, 57, you have an article by Mr. G. B. Gardner on the *Squoyle*. He seems to be in doubt as to its origin and use.

As a man who has spent his life in the New Forest of Hampshire, perhaps I may be permitted to give a few hints upon this interesting subject. About sixty-five years ago I used to make them for my own use.

It was, originally, a weapon specially designed for poaching and was used much by the lower orders of the Forest dwellers. It was a *silent*, deadly weapon and could be used by anyone who possessed the necessary skill. It was a great weapon for Gipsies. The name is derived, among the lower orders, from the word *skuggie* (or *skuggy*), the local name for the squirrel, and it was essentially a weapon used to kill the squirrel.

The reason for 'loading' is obvious. When thrown into a tree unloaded, it would invariably lodge across two small twigs or boughs, much to the chagrin of the owner. When 'loaded' the heavy end caused it to tilt and slide off the twigs and so fall to the ground to be recovered for the next throw.

The plan of campaign was for several lads to form a ring around the tree, which supported the squirrel, and to assail the quarry from every side, and it generally resulted in an early kill.

The squirrel was (and is) considered a great delicacy among the gipsies and Forest folk, hence this energetic hunt.

The *squoyles* illustrated in MAN, 1941, 57, are rather elaborate specimens. Often they were just a length (12 inches) of yew or ash, roughly trimmed, with a blob of melted lead, egg-shaped, 'run' on to the end.

They were carried in a long pocket. I have made them, as a boy, in a few minutes, at no cost whatever.

As Mr. Gardner remarks, they are essentially a New Forest product and have been in existence from the Conquest. They are dying out owing to 'Cruelty to Animals' Acts and other changes. ARTHUR LIGHT.

Cowrie and Evil-Eye: Cf. MAN, 1941, 36, 37.

81 SIR,—Are we really comparable to futile Byzantines when we try to sift out some ways of the mind of man—for even discussions on the cowrie and its possible connexions are efforts in that direction. Here, anyhow, is a small contribution which, I think, has not been published. An assistant excavator with Sir Flinders Petrie told me, late in last century, that if a statue, or the head of one, was found, a rush must be made to guard it since the workmen would hack out the eyes immediately, fearful as they were that through the eyes the spirit of the long-dead man would work them terrible harm. The eyes of many of the old statues were made often in the most life-like manner possible; sometimes a tiny disc of bright metal was inserted behind the crystal covering the iris in such a way that it caught and reflected light and gave the impression that the eye was glancing round and still alive.

G. D. HORNBLLOWER.

Economics of a Malayan Fishing Industry: a Correction. Cf. MAN, 1941, 58.

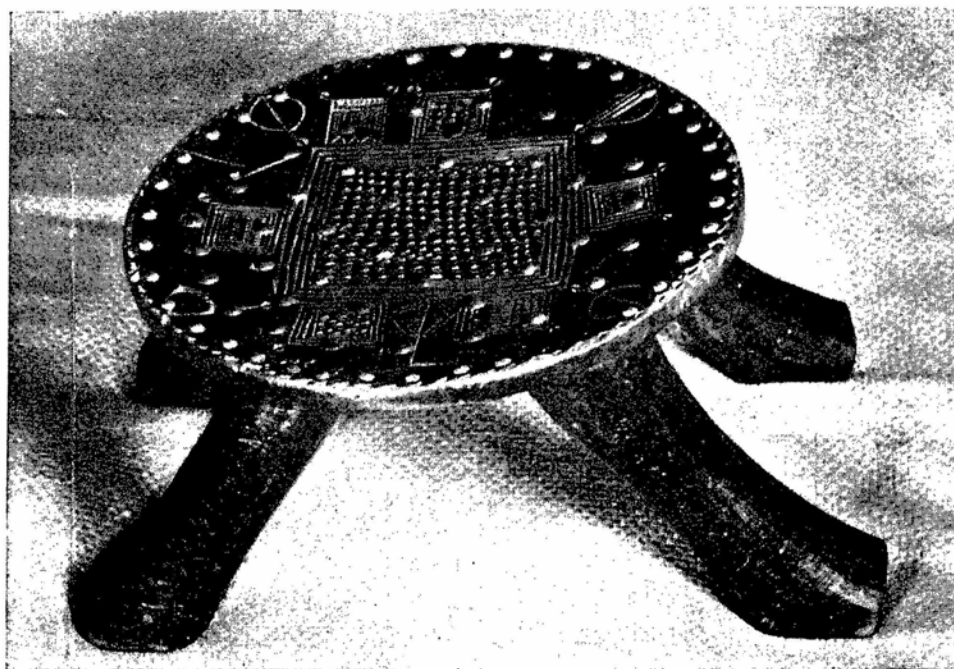
82 SIR,—As I did not see the proofs of my article on 'Economics of a Malayan Fishing Industry' (MAN, 1941, 58), will you kindly allow me to make a correction in it? In discussing the scheme of distribution of the money from fishing the first item dealt with has unfortunately been omitted from the text as it stands. The following passage should accordingly be inserted in the middle of p. 72 (l. 24).

"In the Perupok area, the first item distributed is the 'share for the *unjang*, which is $\frac{1}{10}$ of the total amount. This is subdivided, $\frac{2}{3}$ going to the owner of the 'parent' *unjang*' from which the catch of fish was taken, and $\frac{1}{3}$ to the *juruselam* as owner of the 'child *unjang*.' The remainder of the cash is then divided into two halves. . . ."

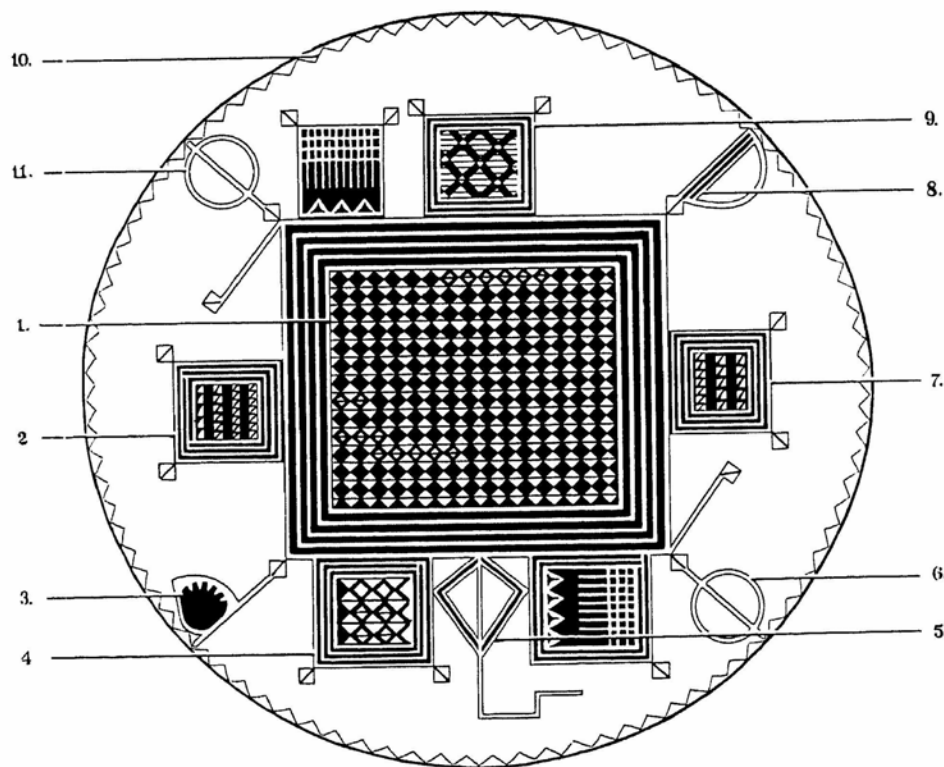
I would also draw the attention of your readers to an unfortunate misprint in the title, wherein I have been elevated to dignities to which I have no claim; I am not a professor, nor D.Sc. RAYMOND FIRTH.

Correction: MAN, 1941, 60.

83 On p. 84 (left column), l. 14, for fig. 30 read fig. 40.
 " " " " l. 23, omit reference ⁵.
 " (right column), ll. 4, 7, omit reference ⁵.
 " " " l. 6, for fig. 1 read fig. 7.



1. A MAN'S STOOL OF CARVED WOOD FROM DAHOMEY



2. THE UNITS IN THE DESIGN ON A DAHOMEAN MAN'S STOOL.

MAN

A RECORD OF ANTHROPOLOGICAL SCIENCE

PUBLISHED UNDER THE DIRECTION OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

XLI, 84-103

NOVEMBER-DECEMBER, 1941

ORIGINAL ARTICLES

SYMBOLISM IN DAHOMEAN ART. *By Professor Melville J. Herskovits. Northwestern University, Illinois. With Plate F, 1, 2.*

84 The absence of analyses of non-representational art-forms from West Africa is striking, in the light of the widespread attention that has been given the semi-realistic, stylized three-dimensional wood-carvings and other art-forms. The only extended analysis of such symbolic forms is that made by Rattray for Ashanti cloth-weaving designs.¹ It is possible that this paucity of data reflects a relative absence of art-forms other than those of a more representational character; an understanding of the range of West African art-styles must, in any event, await the results of future investigation.

In Dahomey, symbolic art is rarely encountered, but one piece was collected during field research there that indicates the presence in some degree of this type of decoration. The piece, which was not included in a previous description and analysis of the artistic and other aspects of Dahomean life,² is a man's stool. As is to be seen in the photograph (Pl. F, 1) and the diagrammatic representation (Pl. F, 2), the seat is decorated with a series of geometric units.

The design as a whole has an essential religio-magical significance, though this is not institutionalized to the extent found among the Ashanti, where a man's stool is held to be in intimate association with his soul, to which, indeed, it comes when summoned after his death. The significance of this composition is that Fa, or fate, always watches over the owner. The god of iron, Gu, is represented because, being close to the owner, this deity can exercise for him his power of preventing accidents. The sun-god, Lisa, enters the design because of his association with Gu,³ he being conceived as "always being before Lisa." The brass tacks have a different significance. Such tacks are found on most men's stools, being driven into these and other articles of personal use such as staves, by friends of the owner, as a token of friendship.

The units in the design, as numbered in the accompanying diagram (Pl. F, 2), are as follows:

1. The mark of the carver.
2. A *fa te*, or board on which the diviner traces the lines which indicate the will of Fate.
3. The sun.
4. A *fa te* (?).
5. A temple, over which a flag flies. On the diagram, this is, of course, upside down.
6. A cowry-shell; in the Fate cult, the cowry is used as an offering.
7. A *fa te*.
8. A stylized knife, the symbol of Gu.
9. A *fa te* (?).
10. Ornamental border.
11. A cowry-shell.

¹ Rattray, R. S., *Religion and Art in Ashanti*, Oxford, 1927.

² Herskovits, M. J., *Dahomey, an Ancient West African Kingdom*, New York, 1938, cf. esp. Vol. II, pp. 311ff.

³ For an elaboration of the meaning and rôle of these beings, and their relationship to each other, see *Dahomey*, Vol. II, pp. 101ff.

ARCHÆOLOGY AND METALLURGY. I. WELDING AND SOLDERING. *By Herbert Maryon, King's College, Newcastle-upon-Tyne.*

85 Thirty years ago few archaeologists realised that metallurgical or chemical examination might throw light upon early history and craftsmanship; museum curators feared damage to specimens; and, on the other hand, metallurgists, physicists, and chemists, who had more immediate problems, did not trouble themselves much with prehistoric metal work. Recently, however, and very gradually, the research laboratory is recognized to be of the utmost value to the museum; and the benefits have not been all on that side.

But archaeologists are seldom craftsmen. There is urgent need for agreement as to the exact meaning of technical terms, whereby archaeologists may speak the same language as metallurgists, physicists, and chemists, and employ the same standards.

In what follows an attempt is made to define and to distinguish between those processes by which pieces of metal originally separate are joined without the rivets or other mechanical devices. In current literature these processes are called indiscriminately either 'soldering' or 'welding.' But these processes require definition, and each process includes several subdivisions. These will be discussed in the following order: (a) pressure welding, cold; (b) pressure welding, hot, no part of the work being molten; (c) fusion-welding, or burning-together; (d) sintering and liquation-welding; (e) 'colloid' soldering; (f) soldering, brazing, and sweating.

(a) *Pressure Welding, Cold.*—By pressure, finely divided particles of a metal may be welded into a coherent mass, with a specific gravity comparable with that of the normal metal, and a truly crystalline micro-structure. But a pressure of several tons to the square inch is sometimes necessary, and such a pressure is not generally practicable. Not all metals, however, require so high a pressure. Pure gold, in the form of foil or sponge, is employed by a dentist for stopping teeth; he welds it into a compact mass by hand-pressure alone. The gold-beater, who makes gold leaf for gilding, repairs a defective leaf by laying a fresh piece of gold over the gap and welding it in position by hammer-work alone. Cold-welding, however, seems to be possible only with pure gold; it is impossible with the lower

qualities. I know of no examples of ancient goldsmith's work from any part of the world which provide evidence for pressure-welding without heat, with the possible exception of four little gold boxes at Dublin.¹ The vertical side of each of these boxes is made from a strip of gold, the ends of which overlap each other about a centimetre. Each extremity of the strip seems to be burnished down tightly to that part of the band against which it rests. But in the lap between them the double thickness of gold may be seen, and the two layers may be forced apart. There is no trace of solder. However, without dissection, I cannot be certain of the technique. Pressure welding, without heat, seems unsuitable for jewellery.

(b) *Pressure Welding, Hot.*—Here again, no part of the material is molten. The heat required for welding iron is about 1,000° C. When iron is at welding heat, scales of iron oxide flake off continuously from the incandescent surfaces, and leave the metal beneath them free from any foreign matter. The two surfaces to be joined thus come into intimate contact. We may remember that in annealing a piece of metal, although the external shape of the object has not been altered, yet, under the influence of heat the crystalline structure within it has been rearranged: the crystals changing their shape and size. At welding temperature, the iron is soft, and the weld takes place by the breaking up of the crystals under the hammer blows, and a regrowth of the fragments into new crystals interlocking across the joint. But the iron is not actually liquid, or it would run like water, as it does at higher temperatures.

The earliest welded joint in iron, known to me, is on the iron head-rest found in the tomb of Tutenkhamen, c. 1350 B.C. Mr. Lucas, late chemist to the Egyptian Government, describes it thus²: "The headrest, which is a typical object, and therefore probably made in the country, has been badly welded, and shows imperfections due either to lack of experience in working iron, or to the absence of a sufficiently high temperature."

In copper and its alloys, however, a film of copper oxide covers each part of the heated metal; this film adheres fairly tightly, and

seems to prevent any very close interlocking of the crystals at the surfaces to be joined. As a result no really successful pressure-weld seems to be possible with copper or its alloys. I know of no example from any part of the world where two or more pieces of copper, bronze, or brass, once separate, have been successfully pressure-welded, either hot or cold.

(c) *Fusion Welding or Burning together*.—A further stage is reached when we have complete fusion at a joint; the surfaces to be joined being actually melted, and running together, with perhaps some additional molten metal of the same kind to help fill the crack. For such a process there are many names: 'autogenous welding,' 'burning together,' 'fusing together,' 'acetylene welding,' 'electric welding,' and so on.

The *New English Dictionary* gives "Welding: 'to burn metals together; to join them by 'melting their adjacent edges, or heating the 'adjacent edges and running some molten metal 'of the same kind into the intermediate space.'" The vital parts of this definition lie in the words "melting their adjacent edges" and "running 'molten metal of the same kind into the intermediate space.'" All the material employed is of the same kind—autogenous. The use of solder is definitely excluded here.

By fusion welding it is possible to fuse together thick plates or rods of metal, and for such work the process is frequently employed today. 'All-welded' girders, and even 'all-welded' ships, are made. But for fine wires the method fails, since the wires, when heated, break up into a number of small beads. The explanation seems to be that the surface-tension in the thick plate or rod is relatively low in proportion to the mass. But in the wires it is high: they have so much more surface in proportion to their mass. So, as soon as the temperature rises high enough to melt the surface at any point the whole of the wire near that place fuses. Then the surface tension on so thin a line of liquid is sufficiently strong to break it up into beads. We may compare it with the pearl-like drops of dew on a spider's web, where the moisture, instead of spreading evenly along its length, forms little round globules, like quicksilver. It follows that 'autogenous' welding is a possible method of joining heavy pieces of metal of the same composition, but it is not generally practicable for flagee or small grain-work.

A kind of fusion welding was in general use throughout the Bronze Age. For example, if the hilt of a sword had been broken off, the smith effected a repair by forming a mould round the broken parts, and pouring a sufficient bulk of molten bronze into and round the joint to melt the broken edges and fuse them together. There are many examples of such fusion-welded joints in museums, but the process is not generally suitable for fine work or for jewellery.

Roman lead waterpipes were fusion-welded by a similar process.³ The craftsman took a long strip of sheet lead and bent it round a rod to the shape of the pipe—of course, with an opening all along one side. He filled the pipe with sand or clay, and built more sand all round it, except for a gutter along the open side. He then poured molten lead into this gutter. It heated and fused the free edges of the pipe. Some of it remained as a ridge all along the joint. The craftsman then cut away unnecessarily projecting parts, and the pipe was finished. It is important to note that in fusion-welding no solder is employed; all the material used is of one kind.

(d) *Sintering and Liquefaction Welding*.—Gold, being untarnishable, is the most satisfactory metal for our study of the primitive worker's methods. I have myself dug up gold-work which had lain in the earth for 3000 years, and found it absolutely clean and uncorroded; whereas copper and bronze objects are often covered with a thick patina, which obscures the original surface and its joints; and ancient iron objects are now often only a mass of rust.

To gold, then, we will devote our attention first. The early hunter, whose eye was caught by this glittering stone, would find with surprise and joy that he could beat it into spear-point or axe-head. But the material was too soft, and the edge of the weapon turned aside in use. The hunter would throw the useless thing away, for his life depended upon the efficiency of his weapons. But he had someone by his side to whom the glittering material seemed valuable—for ornament, if not for use. And so from very early times ornaments were made from gold. At first, probably, raw nuggets were used as pendants. Then gold was beaten out on a flat stone with a stone hammer. The flat sheet could be decorated by bosses produced by repoussé work: it would sparkle better thus. Ingots could be beaten out into wire, but wire

could be produced more easily by cutting narrow strips from a sheet, either by the flint chisel or by scoring with the flint knife, and trueing the cut strip by hammer work, or by rolling it between smooth stones. You can generally see traces of the sharp edges in ancient gold wire-work. After a time the discovery was made that if a number of small pieces of this shining stone were put into a cooking pot and heated well, they would be found to have joined together in one mass, and from this mass a bigger ornament, or perhaps a small cup might be made. There were possibilities in this rather useless stone after all. It was easy to work, and it kept clean. So gradually a technique for working gold grew up.

Native gold is always found to be alloyed with some other metal or metals. Among the objects made from gold or from electrum from Mesopotamia, published by Sir Leonard Woolley in his *Excavations at Ur*,⁴ are

	gold	silver	copper
a dagger containing	91.11	7.69	1.20
a hair-ribbon „	70.91	27.52	1.57
a spear-head „	30.30	59.37	10.35

Those objects were probably made from native gold, as found, though possibly some copper was added to the last of the three. The gold content varies from 30 to over 90 per cent.

Gold nuggets from different sources will be likely to contain different amounts of some other metal or metals, and the melting point of the samples will be different; e.g. a gold nugget containing 10 per cent. of silver would melt at about 1048° C.; another with 20 per cent. silver at about 1038° C.; a nugget with 10 per cent. copper at about 920° C.; one with 20 per cent. copper at about 880° C., and so on. Suppose that in early times a goldsmith in Sumeria, in Greece, or in South America, wished to make a large ingot of gold from a number of nuggets, obtained from different sources, with the addition of broken-up scraps of old jewellery. He would place them either in a crucible or in a hollow on a slab of charcoal, put it on his hearth, and blow up the fire. As the temperature rose those nuggets which reached their melting point earliest would flow over the surface of their neighbours, and adhere to them, for a molten metal or alloy which flows over another metal surface in suitable conditions tends to penetrate the surface and to alloy itself with that piece of metal.

Nuggets of different qualities might thus become fused into a coherent mass, although the nuggets with the highest melting point had not been hot enough to melt at all. The resulting ingot would be irregular in its composition: some parts of its mass being richer in gold than the rest. If the ingot was now hammered out into a sheet, its normal colour and its power of resistance to corrosion would not be the same everywhere; so, in time, it would take a mottled appearance. Professor J. L. Myres tells me of a gold cup from Olympia, now in the Boston Museum of Fine Art, the colour of which is irregular, some parts looking like pure gold, and others of a different colour. From Professor Myres' observations it would appear that the sheet of gold out of which the cup was hammered was formed from a number of nuggets which varied as regards their gold content, and that they were joined together by some such method as that which we are discussing. The whole mass could not at any time have been entirely molten: otherwise, by diffusion, it would have become more homogenous.

This joining together of grains or nuggets of varying quality without complete fusion is known to metallurgists as 'sintering.' The term 'sintering' is employed also by geologists, but in a rather different sense.

The native craftsmen of the province of Esmeraldas, in Ecuador, before the coming of the Spaniards in the sixteenth century, were accustomed to sinter together grains of gold and of platinum, and from the resulting mass to make implements and articles of jewellery. Now to melt platinum requires a temperature of no less than 1760° C. The native workers could obtain no such temperature in the charcoal fire, their sole means of welding or soldering metals. Indeed it is only with the oxyhydrogen or oxy-acetylene burner or the electric furnace that this refractory metal can be melted. How could these natives deal with such a material? Mr. Paul Bergsoe, of Copenhagen,⁵ has examined, and assayed where necessary, over 1000 objects of gold and platinum from Ecuador. He has found that some of the objects were made from an alloy of gold and platinum with a little copper and silver. They are white in colour if the platinum content is more than 20 per cent. In modern times, except where platinum jewellery is concerned, we are so satisfied with the yellow

colour of gold that we hardly like to decorate it with metal of any other colour; we generally feel that beyond gold we cannot rise higher in the scale of enrichment—unless we employ coloured enamels or precious stones. But the ancient smiths of Ireland decorated their golden hair-rings with an inlay of *silver*—a whiter metal. The goldsmiths of Sumeria decorated their golden bowls with panels of *electrum*—a whiter metal. So, because they had no free silver, the natives of Ecuador employed this white platinum alloy as a brighter kind of gold.

The method by which they produced this white alloy will be discussed in a subsequent paper. (MAN, 1941, 86.) Here all that it is necessary to say is that gold and platinum grains were sintered together to produce it.

(d) "*Liquation Welding*."—A very remarkable technique came to my notice recently. In Germany a few craftsmen, working in gold and in silver, have developed a technique of very great refinement. Their jewellery is decorated with patterns composed of fine grains or wires attached to a backplate. Ordinary solder is not employed. The method may be understood, if we consider what happens when we alloy gold with copper. The diagram, fig. 1, shows the

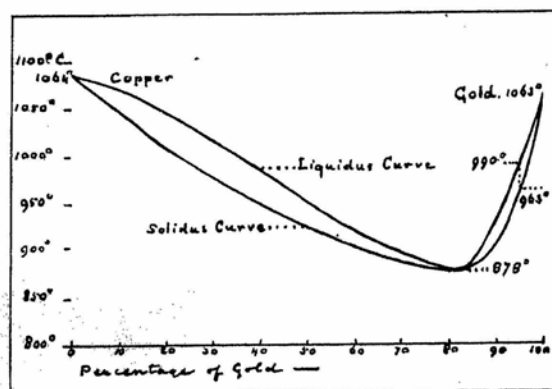


FIG. 1.—MELTING POINTS OF ALLOYS OF GOLD AND COPPER.

melting point of each combination of gold with copper. We note that pure gold melts at 1063°C., and pure copper at 1084°C. The alloys of gold and copper melt at temperatures lower than those figures. For example, an alloy of 95 per cent. gold and 5 per cent. copper melts at about 975°C. Actually at the temperature of 975°C. part of the alloy has melted, and part yet remains solid. Below 963°C. all is solid.

Above 990°C. all is liquid. So the curve drawn through 963°C. is called the *solidus*-curve, because all alloys shown below it are solid at the temperature shown on the diagram, and the curve drawn through 990°C. is called the *liquidus*-curve, because all alloys above it are liquid at the temperatures shown. It will be noted that an alloy of 82 per cent. gold and 18 per cent. copper melts at 878°C. all at once. For, as may be seen, both the *solidus*- and the *liquidus*-curves pass through 878°C. together. An alloy of this composition is known as the *eutectic* alloy, i.e. the alloy with the lowest melting point.

Now the alloy—95 per cent. gold, 5 per cent. copper—will begin to melt at 963°C. At 975°C. the more fusible parts of the mass will be molten, and the less fusible parts will still remain solid. It is probable that the less fusible parts remain in the form of dendritic crystals—as a kind of skeleton or framework of the mass—whilst the more fusible parts of the alloy run out and behave like solder in joining things together. Under the microscope I have seen evidence which seems to show that this is actually what happens. At any temperature above 990°C. the whole mass would become molten. Let this alloy—95 per cent. gold, 5 per cent. copper—be in little balls or grains, which we wish to fix on to a background; and let the backplate be of pure gold, which melts at 1063°C. We arrange the grains on the background, and heat to a temperature between 963° and 990°C. Some of the more fusible parts of the grains become liquid, molten metal runs down the surface of the grains, and attaches itself to the background. When cooled it will solidify, and the grains will be found fastened by it to the background. No solder has been employed, for solder is always something *added*, but here the more fusible portion of the material of the grains—the *eutectic* alloy—has done the work of a solder. The practical development of this process is a very remarkable achievement. The term *liquation welding* is probably the most suitable to describe it. The diagram shows that there are other alloys of gold and copper which could be employed for similar work.

(e) *Colloid Soldering*.—We have now to consider a further advance in early technique. Probably a good time elapsed before some specially observant craftsman discovered soldering. Perhaps

the discovery arose in this manner. All native gold is alloyed with silver, copper, or other minerals. These alloys vary in colour (like English and Australian sovereigns) and in fusibility. A craftsman, watching the nuggets of gold melt in his pot, might notice that some melted sooner than the rest. Apparently they required less heat to melt them. After he had observed this several times he might realize that nuggets from a certain source always melted before those from elsewhere. Perhaps at the time he did not consider it a very useful observation, and he all but forgot it. But when a treasured ornament got broken, then—he wondered—if he used some of that easily melted gold, might he stick the parts of the broken ornament together again? He tried—and he made the first soldered joint.

I believe that at first all the early soldering was done with naturally alloyed golds, found by trial to melt at a reasonably low temperature. Only after long experience with these did the craftsman learn that by the addition of a small proportion of copper to the gold he could make a solder for almost any gold.

Already under the First Dynasty of Ur, some 5000 years ago, the smiths of Mesopotamia could beat up sheet gold into cups and other vessels, and make fine jewellery. Skilled in soldering, they could make open-work filigree patterns and solder fine wire ornaments on to heavy back-plates, as on the gold dagger from Ur. No great technical advance in soldering was made until the Twelfth Dynasty of Egypt, about 2000 B.C. Then we find the beginnings of *granulation-work*, i.e. decorating a gold surface with a pattern formed of minute grains of gold. Coarser work of this kind was known in Sumeria, but the finest work was done in Greek lands from Mycenaean times onwards, and in Etruria from about the eighth century B.C. onwards. In the finest work the gold grains run as small as 160 or 180 to the linear inch, and they look like a bloom on the surface of the gold. Innumerable attempts to copy this fine granular work have been made. One difficulty was that however finely the solder was cut, or filed, its fragments were large enough to clog the fine texture of the grain work; another, that the flux (generally borax) boiled up when heated, and tended, even if dehydrated, to displace the grains.

Some of the best copies of the ancient work

were made by Castellani, half a century or more ago; examples of his work are in the South Kensington Museum. Castellani and his successors filed their solder into fine dust. When I was a lad in London, I was fortunate in being shown Castellani's method by one of his old workmen. But one could not obtain any result as fine as that of the old work. By grinding solder to a very fine dust exceptionally fine joints can be made, but I do not think that this was the method employed in antiquity.

Then after 2000 years an Englishman, Mr. H. A. P. Littledale, studying the old work, found the true solution, and has made exceedingly fine copies of the best old work.⁶ The main difficulties with which he had to cope were the displacement of the little grains by the heated flux, and the division of the solder into fine enough particles. He eliminated flux displacement by not using any flux, and he divided his solder chemically instead of mechanically. He employed a copper salt, sometimes copper hydrate, $\text{Cu}(\text{OH})_2$, intimately mixed with seccotine glue. When heated, the copper salt turned to copper oxide, and the seccotine was carbonized. The carbon combined with the oxygen in the copper oxide and left the finely divided metallic copper in the joint. This copper combined with the adjacent gold and formed a solder in the joint. Mr. Littledale's discovery is a very remarkable achievement, and he has done most beautiful work on platinum, gold, and silver. He has named his process of employing a combination of a copper salt with glue—*colloid hard-soldering*. The word 'colloid' is evidently employed etymologically ($\kappa\acute{o}\lambda\lambda\alpha$ = 'glue'), rather than in its more usual sense as indicating a non-crystalline form of matter.

(f) *Soldering, Brazing, and Sweating*.—In the *New English Dictionary*, *Solder* = "a fusible metallic alloy used for uniting metal surfaces or parts"; *To solder* = "to unite or fasten by means of a metallic solder." The view that a solder is a more fusible material than that of which the work is composed is accepted, with all that that limitation implies. As will be seen below 'colloid' hard-soldering barely comes within this definition, and the term 'autogenous soldering' is clearly self-contradictory. Again, a solder may be defined as any metal or alloy, *whose melting point is lower* than that of the metal or alloy to be soldered, which may be run between the

parts to be joined to fasten them together. The essential is the *lower melting point*. From this it follows that the term 'autogenous soldering' involves a verbal contradiction, for if all the material is 'autogenous' it has the same melting point, and the word 'soldering' is necessarily out of place. So misleading a term should be banished from archaeological literature.

In colloid soldering only a portion of the solder (namely, the copper) is added to the work; the gold content of the solder is drawn from the surrounding gold parts. This economy of material is a characteristic of colloid soldering, and, as we have seen, the joints are very delicate, and there is no clogging of the finer parts of the work by masses of solder.

But in ordinary soldered work the whole of the solder is added. In Sumeria, a gold-copper or a gold-silver alloy was used as a solder. In Egyptian jewellery we may sometimes see all along a joint the whiter streak of the silver or the electrum which was employed as solder in the gold-work.

From these early times we have the actual specimens, but no written description of the methods. Not until Roman times have we written notes on the methods of the goldsmiths. The elder Pliny, who died in A.D. 79, probably describes processes long traditional.⁷ First, the methods employed by miners to obtain *chrysocola* (lit. 'gold-glue'). This name is used in modern chemistry for a hydrous copper silicate, $\text{CuSiO}_3 \cdot 2\text{H}_2\text{O}$, but in ancient times it seems to have been applied to malachite or almost any green copper-salt. The *chrysocola* was mixed with verdigris, urine, and nitrum (carbonate of soda). These substances when heated would provide the copper salts, the carbon, and the flux which were required for soldering. Further, finely divided gold, mixed with about 14 per cent. of silver, provided an additional mass of solder for use with some qualities of gold.

Theophilus (or Rugerus) the monk, who wrote in the eleventh century,⁸ describes how the lees of wine, burnt and ground to powder, or beechwood ashes, made into a lye, were employed for soldering, mixed with copper oxide and materials which would produce carbon. Lees of wine (potassium bitartrate) and wood ashes would give potassium carbonate—a good flux. In addition, a mixture of two parts of silver and one of copper was melted and filed to powder to use as solder.

Ancient goldsmiths had two methods of making soldered joints. They made the solder in the joint, by a method closely resembling that of Mr. Littledale, and they used an already prepared solder where a larger bulk of solder was required; or perhaps they employed this for coarser work. But in fairness to Mr. Littledale I wish to make it quite clear that his discoveries were made long before he knew anything of their writings, and he is not convinced that there is any similarity between his process and those which they describe.

From Mr. Littledale's work another interesting fact emerges. The higher the temperature to which a soldered joint is raised, the richer will be the quality of the solder in the joint—whatever the quality may have been at first. This is of importance, for a true appreciation of what happens when the temperature of a soldered joint is raised from, say, 878°C . to 1000°C . will save us from serious mistakes. A solder containing 18 per cent. of copper will melt, as in fig. 1, at 878°C ., and it will flush the joint as soon as the temperature of the work has reached that point. But if the temperature continues to rise, more and more of the gold from alongside the joint will enter into combination with the solder, increasing its total amount, and enriching its quality. At 950°C . there will be just the same amount of copper in the joint as there was at first—it *must* stay near there—but there will be much more gold in the solder. Thus there will be more solder, and it will be richer in its proportion of gold, about 93 per cent. gold to 7 per cent. copper. At 1000°C . there will still be the original amount of copper in the solder, but more gold than before—97 per cent. gold to 3 per cent. copper—a quality *better than 23 carat*. Now a joint of this quality is practically impossible to detect, for it has no appreciable difference in colour from that of the surrounding gold. We should remember that all native gold contains alloy, so the 3 per cent. difference due to the solder would be almost impossible to identify.

The observation, that a soldered joint, whose temperature had been raised as high as 1000°C ., is an *invisible joint* so far as its colour and quality are concerned has an important bearing upon the question whether the ancient craftsman ever *welded* joints in gold, or silver. Hitherto, archaeologists and others have looked for discoloration along an ancient soldered joint, and

finding no such signs, have concluded that the joint has been formed 'autogenously,' by welding, without solder. But no one has brought forward any evidence that the ancient craftsman ever tried to weld a joint in gold, though everyone who has tried his hand at jewellery knows how easy it is to *overfire* a joint. The ancient craftsman frequently overfired his joints: his charcoal fire wasn't too easy to manage. He had no need to risk the dangers of a welded joint when efficient solder was available in his workshop. These joints were intended by their makers to be soldered joints: and they *were* soldered joints, *but they were overfired*. So I believe that until modern times, when the different alloys of gold had been scientifically studied, no one ever deliberately applied the process of welding to jewellery.

Soft soldering is a term reserved for the processes by means of which pieces of metal may be soldered together at a low temperature: considerably below red heat. The solder generally employed for this purpose is an alloy of lead and tin. The flux is zinc chloride, resin, tallow, or some other oily substance. Lead pipes, 'tin' canisters, and other objects which must not be raised to a high temperature, are put together with 'soft solder.' Work upon which there is 'soft solder' must on no account be raised to red or white heat, the temperature necessary to melt hard solder. For the lead and tin, before

approaching such a temperature, would have first alloyed themselves with the gold, and subsequently have become partly oxidized, leaving a porous and discoloured joint.

Brazing is a name employed to describe the method of hard-soldering iron, copper, bronze, or brass, by means of a low-fusing brass solder, composed principally (if not entirely) of copper and zinc. It is used in the ordinary way.⁹

Sweating is a term employed to describe the joining together of two or more surfaces of metal, which have been already coated with a film of solder, either 'hard' or 'soft.' Such a preparatory coating is intended to ensure the continuous contact of the different parts over their whole surface. Additional solder may be run between them to make up any deficiency.

"Tinplate" is sheet iron over which a coating of tin has been fused. Take two pieces of tinplate, put a little tallow or other flux between them, and tie them together with iron wire. By heat we can 'sweat' them firmly together; for the heat melts the coating of tin on each piece of iron, and the adjacent films of molten tin run together. So, when cold, the two pieces of iron are found to be firmly attached to each other. The tin on the surface has acted as a solder. This process is known as *sweating*. Hard solder can be used in the same way.

ARCHÆOLOGY AND METALLURGY: II. THE METALLURGY OF GOLD AND PLATINUM IN PRE-COLUMBIAN ECUADOR. By Herbert Maryon, King's College, Newcastle-upon-Tyne.

86 American archæology as a rule does not come within the field of interest of the European student, for it is felt to be rather remote, and outside the 'apostolic succession' of Eurasian and North African cultures. But occasionally a discovery in the New World throws light upon some of the problems of the Old. Such a discovery is discussed by Mr. Paul Bergsøe of Copenhagen.¹

The territory of Ecuador lies on the equator on the North-Western side of South America. Native gold-seekers, washing the river sands in search of the precious metal, find in their pans, among the gold dust, small objects of wrought gold and of platinum—needles, awls, fish-hooks, forceps, safety-pins, spoons and nails, together

with many fragments of jewellery. They were made by the Indians before the era of the Spanish conquests. They exhibit quite unexpected qualities of workmanship. For these natives seem to have been the first people in the world to work platinum. From it they made jewellery, and with it they plated gold. They also showed extraordinary delicacy and technical skill in the production of some of their ornaments.

Mr. Bergsøe's researches enabled him to copy both the materials and the technique of these early goldsmiths. His examination of the material resulted in a number of interesting discoveries. The goldsmiths of Ecuador had no free silver, but they produced a kind of forerunner of our Sheffield plate by soldering together

thin sheets of gold and of platinum, from which to make jewellery. They also joined together pieces of platinum.

What method did the native craftsman employ in order to plate gold with platinum? When the objects were composed of two or more pieces of metal, originally separate but now one, how were they fastened together? Were they soldered, welded, or put together by some other process?

Mr. Bergsøe provides a convincing answer to the first question, and a partial answer to the second. Many of the specimens were made from the natural nuggets of gold, hammered to shape. Others were made from ingots of gold, *i.e.* from pieces of gold which had been fused together in the charcoal fire with the aid of the blowpipe, or some other means of producing a draught. The wood-grain impression from the charcoal block upon which the ingot was melted may be seen on several specimens. Some silver is to be found in all native gold from Esmeraldas, and it is present in these specimens. But no objects in silver are known; the goldsmiths did not know how to extract it, even if they had suspected its presence.

Other objects were made of an alloy of gold and platinum, with some copper and silver. These are generally white in colour. Others have a high percentage of copper, so high that the copper must have been added deliberately; no native gold with so high a percentage of copper being available.

To make the white alloy the smith, after removing all the larger nuggets, seems to have taken the minute grains of gold and platinum which were found in the pan of the gold-seeker, and to have heated them together on the charcoal slab. When the temperature reached perhaps 900° C. the grains of gold, *i.e.* composed of gold with its natural alloys, would melt and flow over the surface of the platinum grains, joining them together. At the same time the gold would become paler in colour, perhaps quite white, for some of the platinum would penetrate and dis-

solve in the gold. This process of penetration and diffusion, under the influence of heat, is, of course, 'sintering' (*cf.* MAN, 1941, 85). The resulting mass is a true alloy. The temperature of the platinum has never approached melting point, but the two metals, platinum and gold, have mutually dissolved in each other.

Small masses of this sintered gold-and-platinum would be alternately hammered, and again heated, until they were forged into a compact mass. Then several of these small masses were combined to form a larger; the gold in them again acting as the cementing material. In this manner a mass of any required size could be obtained. It could then be beaten out into a thin sheet. Another sheet, this time of gold, would be prepared. The two sheets, one of gold, the other of the platinum-gold alloy, would be laid one upon the other on the charcoal, or possibly on a terracotta slab. Heat would be applied sufficient to cause the gold to run, and the two sheets would become fastened together; the gold again acting as a cement. As a result, a plate, one side of which was of gold, the other of the platinum-gold alloy, white in colour, was obtained. This could be worked into any desired form.

Discovery of the method by which objects, originally composed of two or more separate pieces of metal, were joined together provided Mr. Bergsøe with some difficult problems. At first he thought that they might have been put together without any soldering material, and he suggested that 'autogenous welding' was the method employed. But for reasons stated above it is probable that they were soldered. It is clear that the ancient goldsmith, with his primitive appliances, frequently overfired his work, and unwittingly left this difficult problem for his successors to solve.

All the South American objects discussed above, which were found at La Tolita, Atacames, and elsewhere, on the coast of the province of Esmeraldas, Ecuador, are now in the Danish National Museum at Copenhagen.

NOTES

Gowland: *Archæologia* (1891), 414. Smythe: *Nature*, Vol. 143, p. 119 (1939).

⁴ Woolley: *Excavations at Ur*, II, p. 294.

⁵ Bergsøe: *The Metallurgy and Technology of Gold and Platinum among the Pre-Columbian Indians*, Copenhagen, 1937, pp. 1-48.

⁶ Littledale: *A new process of Hard Soldering and its*

Archæology and Metallurgy, Part I

¹ Armstrong: *Catalogue of Gold Ornaments in the Collection of the Royal Irish Academy*, Frontispiece, figs. 485-488. They date from the bronze age.

² Lucas: *Ancient Egyptian Materials and Industries*, pp. 196-197.

³ Lanciani: *Le Acque e gli Acquedotti* (1880), 194.

possible connexion with the methods used by the ancient Greeks and Etruscans⁸ from 'The scientific and technical factors of production of gold and silver work; a course of lectures held at Goldsmiths Hall under the auspices of the Worshipful Company of Goldsmiths,' 1935–1936, pp. 44–63; cf. Littledale: British Patent No. 415181, March 23rd, 1933.

⁷ Pliny: *Natural History*, XXXIII, v, 26, 28, 29.

⁸ Theophilus, or Rugerus: *An Essay upon various arts*, translated by Robert Hendrie, Ch. XXXI, LI, LII, LXXIV, XCI.

⁹ Maryon: *Soldering and Welding in the Bronze and Early Iron Ages*⁸ from 'Technical Studies in the Field of the Fine Arts,' V. 2, Harvard. Oct. 1936, pp. 75–108. Maryon: *The Technical Methods of the Irish Smiths in the Bronze and Early Iron Ages*, *Proc. R. Irish Acad.*, April, 1938, pp. 181–228.

Part II

¹ Bergsøe: *The Metallurgy and Technology of Gold and Platinum among the pre-Columbian Indians*, Copenhagen, 1937, pp. 1–48.

FISHING-POISONS. By James Hornell.

87 The capture of fishes by means of toxic mixtures—infusions and solutions—thrown into still waters is so widely distributed throughout the world as to lead us to deduce high antiquity for the practice.

In South America, particularly in the basin of the Amazon, fish-poison is employed more extensively than in any other region. Owing to the prevalence there of this usage and because of the great diversity of plants made use of, botanists have devoted much attention to the subject and nearly one hundred plants have been listed as yielding extracts poisonous to fishes, or capable of causing stupefaction in varying degree. The great majority are the products of plants collected in the adjacent forests, but a few of the more potent, notably *Lonchocarpus nicou*, *Tephrosia toxicaria*, and *Clipadium* spp., are cultivated over a wide area either in small domestic clearings carrying from 25 to 100 plants or in regular plantations of as many as 10,000 stocks.¹

In Europe the toxic qualities of certain species of *Verbascum* and *Cyclamen* were employed formerly for a similar purpose; in Asia and Africa various other plants have been put to the same use.

In the present note I propose to limit attention to the fish-poisons employed in Palestine and Fiji, owing to the fact that this was a subject which came directly under my notice when investigating fishery problems in both localities on behalf of their respective governments.

Palestine :—

Everywhere in this country I found a knowledge of fish-poisons widely disseminated. Prior

¹ For details and bibliography, see Killip, E. P.: 'The Use of Fish Poison in South America.' *Ann. Rep. Smithsonian Institution* for 1930, pp. 401–408.

to the war of 1914–1918, poison-fishing in ponds, lakes, and slow-running streams was a common practice whenever conditions were favourable. To-day this illicit method of fishing is greatly reduced; dynamite and other explosives have been found to be more lethal and effective, with the added advantage that their use is not restricted to quiet waters; a stick of gelignite or a Mills' bomb, relic of a wartime *cache*, is equally effective for its purpose, whether thrown into placid enclosed waters or into the open sea, even when tide and currents tend to the rapid diffusion and dilution of the poison. This substitute, frowned on by the authorities with just cause, is extremely difficult to suppress, when explosives are obtainable easily as they are in wartime and the years that follow. Even so late as 1934, when I was in Palestine, Arabs of the southern district were still unearthing unexploded bombs and shells, lost or hidden, some left by our own troops, but the greater part abandoned by the Turks during their retreat in 1917. They had learned to extract the explosive very cleverly, but sometimes the results were tragic.

In the north of the country, little war material has been available, but the construction of Haifa harbour and the extensive quarrying operations in that neighbourhood for some years past have given plentiful opportunity to obtain illicit supplies.

Although the use of poison has been superseded to a large extent by dynamiting, it is still extensively practised, especially in the inland parts, as around Tiberias and Huleh, and in the various rivers when they run low and form quiet pools where fish tend to congregate; a necessary condition to the successful use of poison is that the water shall be still and without current.

The plants commonly employed by the Palestinian Arabs are three in number :—

1. *Cyclamen latifolium*, in Arabic *rakaf* and *sabūnet er-r'ai* ('shepherd's soap'); less commonly it goes by the names of *zūkruk*, *zūknuk*, *zūkzuk*, *zūzu*, and *zēmbak*.
2. *Styrax officinalis*; in Arabic the plant is called *abhar*, with *hauz* as the name of the seeds.
3. *Verbascum sinuatum* and other species; in Arabic, *awarwar*. Of these the first two are those in most common use.

Cyclamen latifolium has a wide range in Palestine, growing most freely on the hills, but also creeping down the river valleys, as on the right bank of the Auja or Yarkon river near its mouth, and on the border of Lake Tiberias between Kennereth and the town of Tiberias.

Fishermen and others employ for their purpose the tuberous root, which usually has the form of a large and flattened potato. They pound it until it becomes of the consistency of soap, and then throw it into the water. As it dissolves and spreads, fishes that come within the area of contamination become stupefied and float helpless on the surface; this poison has so powerful an influence that this method of fishing is extremely profitable, large quantities being netted out under favourable conditions.

The active principle is the alkaloid *Cyclamine* which produces effects similar to those of the deadly arrow-poison *curari*, used by South American Indians. Fishes are so susceptible to the baneful influence of cyclamine, that dilution to the extent of one part to three thousand are sufficient to cause them to float to the surface in an inert condition; death results quickly in small fishes.

The people living at Athlit are credited with being particularly partial to this practice; they are; or were, accustomed to use this poison in the bay during periods of dead calm. Those of Haifa and Acre were also offenders in past years, using it both in the rivers and in the sea, but dynamite is now found to be more effective.

Styrax officinalis, which grows wild on the hills, is especially abundant in the region north of Lake Huleh, on the high ground between Metulla and Banias. The poisonous principle resides in the seeds; these are known under the name of *hauz* in the bazaars where they are generally obtainable at shops known to those who require supplies.

For the purpose of obtaining fish-poison from

these seeds, they are first ground and afterwards boiled in water to which a small quantity of wheat flour has been added; to this they subsequently add some sheep's gall and a further small amount of flour, boiling the mixture until it becomes of the consistency of paste. This is afterwards dried; when required it is broken up and the crumbs are thrown upon the surface of any pool or quiet backwater where fishes are known to be abundant. As with the *Cyclamen*, it is also used on occasion in the sea when conditions are exceptionally tranquil. Some fishermen affirm that the use of *Cyclamen* paste is most effective in brackish and in fresh water, whilst *hauz* is the better poison for use in the open sea.

Regarding the third vegetable poison, extracted from *Verbascum*, I learned nothing definite, but, according to Dr. Rabinovitch, the plant when dried is thrown upon the surface of the water to be contaminated and then is beaten with sticks until its juices turn the water yellow. How this procedure can have the result stated is difficult to understand; I should judge that the beating is done *prior* to throwing into the water. Fishes which come within the area affected are stupefied, float up and are netted out as in the case of fishes stupefied with the other two poisons.

None of the three poisons named renders fishes unfit for human consumption, if they be properly gutted and washed before cooking. The vital objection to their employment is the wastefulness of the method; in most instances the great majority of the fishes affected are too small to be of any market value and are left to die on the banks or in the water.

Unslaked lime is also occasionally thrown into pools to kill or stupefy fishes, but few professional fishermen use either this or any of the poisoning methods; these are practised mainly by fellahin without any stake in the waters.

Fiji:—

Travelling to the other side of the world, we find poison-fishing a common usage in the lagoons of many islands of Oceania. In Fiji in particular it is prevalent; its popularity vies with that of the fish-drive. Whenever conditions are favourable and a decision is made by the elders of a village, everyone gets busy raiding the nearby forest for the material requisite. This consists preferably of the roots of two species

of *nduva*, plants belonging to the genus *Derris*, which is otherwise valued as the basis of a potent insecticide.

One species of *Derris* which is indigenous is called *nduva nganga* or *nduva-ni-Viti* (= *Derris uliginosa*, Benth.) ; the other (*Derris malaccensis*, Prain) is reputed to have been introduced from New Guinea, as is recognized by Fijians, who term it *nduva-ni-niukini*. *Tephrosia pescatoria* (*nduva-kei*) and a species of *Pittosporum* (*nggoling-goli* and sometimes *nduva-kalou* in Fijian) are also reputed to be employed for a like purpose.

When the villagers return laden with their spoil, they set to work to pound the roots and make the crushed mass into small bundles of convenient size to hold in the hand. Everybody works with a will, with much talk and jollity, anticipatory of the fun to come and the feast to follow.

The conditions of fishing differ entirely from those that prevail in continental lands. Instead of being restricted almost entirely to inland waters, in Fiji poison-fishing takes place in the lagoons bounded on the seaward side by the encircling coral reef. Here, when calm weather prevails, the water, sheltered from surf and swell by the reef, is still as a millpond at low tide, the time chosen for poisoning operations. An hour or so before dead low water the villagers load all their available dug-out canoes with bundles of the crushed *nduva* roots. The crews paddle out to the area selected, followed by a crowd of their friends wading quietly, for now a ban of absolute silence is enforced lest the fishes be alarmed. All are armed with fish-spears, single-pointed. Reaching the chosen place the canoes are distributed over the area to be fished, an area characterized by cavernous rock masses such as dead coral-heads, ideal hiding-places for rock-haunting fishes. In hushed silence all await the signal to begin. When at last this is given, the crews of every canoe dive simultaneously to the

bottom, each man with a bundle or mass of pounded *nduva* in one hand or impaled on the point of a stick or spear, according to the nature of the rock cavities. The advantage of the spear or stick is that by its use the bundle may be pushed farther into the hole if it penetrate deeply into the rock. Each man may place in this way several handfuls. When this operation is complete, the men wait in a surrounding circle while the poison does its work. Within a few minutes the effect is seen. Some of the larger fishes, more resistant than others, dart out from their holes in the endeavour to escape the toxic influence of the drug—their fate is to be speared as they flee. Those that receive a sufficient dose become stupefied and float to the surface, more or less inert, to be gathered in by the hands or by the spear.

The factors of tide, weather, and local physical conditions are all carefully considered before the fishing area, date, and hour are selected. Should there be any wind, the *nduva* is placed preferably in holes on the windward side of each rocky mass. The run of any current has also to be considered ; the ideal conditions are a perfectly smooth sea with the operations timed to coincide with the slack water period at low tide.

Under the conditions in which poison-fishing is conducted in Fiji, the evil consequences entailed by this practice elsewhere are eliminated in great measure. The fishes caught sheltering in rocky cavities are, in the main, adult and of good size ; small shoaling fish and fry are seldom involved. Hence if carried out according to the recognized Fijian usage, no serious objection need be taken ; indeed, under the conditions implied in the agreement made by the Fijian chiefs, when they voluntarily ceded the islands to the British Crown, the continuation of the right of Fijians of indigenous race to practise this fishing method cannot well be withheld ; people of other origin have no such claim to this privilege.

NOTE.—Since writing the above I have received from H.E. Sir Harry Luke, Governor of Fiji, a copy of the Fisheries Ordinance recently enacted by the Fijian Legislature ; in this it is gratifying to find that provision is made for the establishment of a committee to make enquiry into the nature and extent of the customary fishing rights of each village community prior to British rule, with instruction to codify these and to define the boundaries of each village area.

By this measure the good faith of the British Government is vindicated in the eyes of the Fijian people and the possibility of discontent eliminated for the future.

AN OBSIDIAN BLADE FOUND NEAR THE UNIVERSITY PARKS AT OXFORD. By T. K. Penniman and Sir Francis Knowles, Bart. Illustrated.

88 Early in October a black obsidian blade $6\frac{1}{2}$ inches long, $1\frac{1}{2}$ inches wide in the middle, tapering to a point at either end, worked all over on both sides with obliquely fluted flaking, was found by the grand-daughter of the Rector of Exeter College near the path at the Keble College entrance to the University Parks, and brought to the Pitt Rivers Museum for identification.

It appears likely from the material, shape, and flaking technique, that the blade is an American Indian knife from Western North America (Oregon or California). A piece of a similar specimen is in the Pitt Rivers Collection, labelled 'Mexico,' but another obsidian knife from Mexico in the collection is characterized by a square base and a beautifully fluted flaking straight across from the lateral margins to the middle of the implement. A specimen similar in flaking technique to the Parks find, but of large size and different shape is figured in Thomas Wilson's paper on 'Arrow-points, spearheads and knives of prehistoric times' in the *Annual Report of the Smithsonian Institution* for 1897, Part I, fig. 83, p. 893. It is entitled 'A sword of obsidian $15" \times 2\frac{1}{4}" \times \frac{5}{8}"$ from Oregon'. Blades of a leaf-shape from California are figured in this paper, but none is exactly similar in flaking technique to the Parks blade. Warren K. Moorehead, *The Stone Age in North America*, Vol. I, p. 85, fig. 67, shows a



lance-head from California of apparently similar shape and technique, though the flaking is difficult to read in a photograph.

The blade found near the Parks is noteworthy for the exquisite workmanship of the oblique flaking. Usually the oblique flakes meet near the middle of the blade, but in at least one instance the flake has run right across its face. In two small areas on one of the lateral margins of the figured face, the flakes run straight across to the middle, but elsewhere on that face the flaking is all oblique. The section is thin, the edges very sharp and unworn, the surface is, in excellent condition, and there are no marks of abrasion or rough treatment. The point at one end is lost, but it is not clear whether this is a recent or an old injury. With this exception and a couple or so of small chips from the edge, the piece is in perfect condition, as perfect as the ceremonial blades from California described by Frances Watkins in *The Master Key* (September, 1939), blades which were carefully wrapped in redwood bark and hidden between ceremonies.

One side of the blade only is figured here. The other side has certain peculiarities which its owner will be able to describe if the blade belongs to any existing collection. It is proposed, if no rightful claimant appears within a year of publication, to retain the knife in the Pitt Rivers Museum.

FIG. 1.—AN OBSIDIAN BLADE
FOUND AT OXFORD.

CULTURE REGIONS.¹ *By Professor C. Daryll Forde, University College of Wales, Aberystwyth.*

89 The concept of culture regions is implicit in the thought of laymen when they speak of such entities as the Latin countries or the Orient. It derives from the appreciation of the continuous but limited distribution of outstanding elements of culture and of the stable association of such elements in complexes recurring over considerable areas.

First approximations to cultural regions have often been made on the basis of the distribution of a few cultural elements or complexes with the tacit assumption that they are indices of the range of total cultural entities. But such intuitional approaches do not achieve satisfactory results unless they are informed by a thorough knowledge of all the individual cultures involved, and may be misleading because cultures as entities do not consist of aggregates of elements which are uniformly and exclusively associated in particular areas.

It is therefore necessary at the outset to clarify our concept of the nature of culture since the possibility of establishing empirically valid areal syntheses, and of comparing these with other geographical distributions, will depend on the validity of the original concepts. Culture is manifested by groups of human beings, and cannot exist apart from such groups. A culture may reasonably be held to consist of the sum total of the learned behaviour of a social group of human beings. Implements and other inert phenomena associated with human activities are manifestations of culture, but they are not themselves cultural entities, and the observation of such phenomena is not essential to the assertion of the existence of a cultural element, which is a concept induced from repeated observation of a particular pattern of human behaviour. But a culture includes a most heterogeneous assemblage of human behaviour patterns, and while interdependence and mutual adaptation of varying degrees between cultural elements have been frequently recognized, it has not been established that the totality of a culture at a given point in time is completely integrated functionally; this is neither logically required by the definition

of culture, nor can it be satisfactorily demonstrated in particular cases. Furthermore, the aggregate of elements which constitute the totality of a culture is never the same for any two social groups; nor is it stable in time within a particular group.

These characteristics of heterogeneity and variability of content and of potential instability in time differentiate cultural data from data concerning the physical universe. This is relevant to one aspect of the present discussion, for cultural data are seen to be distinct in character from the data of physical geography which are theoretically homogeneous and integrated and are far more stable in time. It is clear, therefore, that cultural regions, whatever the criteria employed for their definition and delimitation, will differ profoundly from regions defined in terms of physical criteria.

It follows in the first place that the various elements in the culture of a particular group will not all have the same areal distribution, and it is a commonplace that this is the condition actually found. It is not theoretically impossible to enumerate all the cultural elements observable among all the social groups occupying a particular tract of the earth's surface over a given time-span. Were this done, it would be possible to map the distribution of every element, but each element-map would differ at least in detail from all the others, and little significant generalization would emerge from the mere inspection of a series of such element-maps.

Two courses are therefore open. First we may study the distribution of a limited range of cultural elements, selected with a particular end in view. The elements may be selected to test a hypothesis of functional relation or functional antithesis, in which cases they would respectively be expected to show mutually coincident and mutually exclusive distributions; or they may be selected to display the areal extension of certain phases of culture, in order to define such problems as those of diffusion, or of adaptation to physical conditions. As an instance of the former, Spier's study of the distribution of cultural elements of the various Sun-dances in the Western Plains of North America may be cited.² Thorough-

¹ The substance of a paper contributed to a colloquium on 'Regional Concepts' at the Cambridge Meeting of the British Association for the Advancement of Science, 1938.

² Spier, Leslie: 'The Sun Dance of the Plains Indians: Its Development and Diffusion.' *Anthrop. Papers Amer. Mus. Nat. Hist.*, Vol. XVI, part. vii. 1921.

going studies of cultural adaptation to physical conditions, which is traditionally of greatest interest to the geographer, are not abundant, probably for the reason that cultural problems come to outweigh the question of physical limitations in the course of investigations of geographical distributions. This is well illustrated in Davidson's recent monograph on "Snow-shoes."³

On the other hand, a series of culture elements may be employed to delimit and map a series of divisions of territory, in which the occupants of each division are characterized by distinctive cultural features, and are differentiated thereby from those of all other areas. For this purpose, the selected elements should be such that those whose presence define and delimit one area are absent in all other areas. Theoretically the series of elements employed should by definition be mutually exclusive, but in practice this is not always necessary; in North America, for instance, the use of the seed beater and the collective hunting of buffalo are not mutually exclusive traits either by definition or in fact, but they coexist in so few cases that they could be used satisfactorily to define distinct areas. It is therefore sufficient if it be empirically determined that, in the wider territory under review, the selected elements are in fact substantially mutually exclusive in their distributions.

Owing to the fact that cultural elements are normally found to be assembled in persistent complexes which may be either interdependent (such, for instance, are a set of tools and a series of ritual patterns associated with a craft), or merely adhering as a result of cultural inertia (such, for instance, would be the association of habitual tea-drinking, Christmas puddings and football in latter-day British culture), the mapping of areas in terms of single cultural elements may, in fact, serve to delimit the spheres of large and mutually exclusive complexes. The mapping of culture areas on this basis has been attempted with considerable success for several areas, the best known probably being Wissler's scheme of culture areas for North America, in which, although the methodology is not explicitly stated, a number of elements central to functional complexes dominant in different parts of the continent are used as

criteria in mapping distributions,⁴ and an attempt has also been made by Herskovits to employ similar methods in delimiting major areas in Africa.⁵

It must, however, be realised that the elements, in terms of which such areas are delimited, have been selected from among the thousands available in the territory either for an avowedly special purpose or on the assumption that they are outstanding in the configurations of the cultures to which they belong. The resulting areas are therefore only areas which *necessarily* differ from one another in respect of the presence or absence of those selected elements. The extent to which those elements are severally members of stable complexes which have substantially similar distributions is a matter for independent investigation. More noteworthy, because more likely to mislead the unwary, is the point that these 'culture areas' do not represent the areas of distribution of a number of 'cultures.' No inferences as to the distribution of cultural wholes, or as to the degree of similarity or difference between the cultures of peoples whose territories lie within such areas can be drawn, for the areas are not defined in terms of cultural uniformity but only in terms of the presence of certain cultural elements.

Is it then impossible to define areas within which culture is homogeneous over a wider field than that covered by a few elements? In the strict sense it is, for no such areas exist. Culture is variable, not only from community to community, but actually from household to household. But to ignore minor variations and discontinuities is a necessary assumption of any regional approach, and if one re-phrases the question to ask whether it is possible to establish areas, within which cultures shall not vary beyond certain limits, it is clear that statistical methods of correlation would enable us to establish the degree of similarity of any desired number of social groups, in respect of any desired number of cultural elements. If the frontiers between unlike cultures were then set at a given value

⁴ Since this paper was written a far more elaborate investigation and delimitation of culture areas in North America has been published by Kroeber, A. L., in 'Cultural and natural areas of native North America,' *University of California Press*, 1939.

⁵ Herskovits, M. J.: 'The Culture Areas of Africa,' *Africa*, Vol. III, 1930, pp. 59-77.

³ *Mem. Am. Philosophical Society*, Vol. VI, 1937.

for a coefficient of similarity, there would be no theoretical difficulty in establishing a series of empirically determined culture regions for the world, in which every known cultural element had been taken into consideration. The labour of gathering the data and computing the coefficients for such a project would, however, be immense, and the only detailed investigation of this kind, of which I am aware, is Klimek's study of the aboriginal cultures of California.⁶ Operating with 90 territorial entities and 411 available elements, drawn from every aspect of culture in the areas, he has established both the extent to which the various elements differ in distribution, and the degree to which the social groups have similar inventories of elements. Although Klimek's results, so far as regional differentiation is concerned, in the main confirm and express more precisely previous intuitive delimitations, they have also led to actual discoveries. They refute, for instance, the previously postulated existence of a distinctive Central Californian culture. They demonstrate the high degree of territorial clustering of traits, and make it possible to map precise boundaries of regions within which a specified degree of cultural homogeneity is found.

We may conclude that culture regions, in the sense of areas characterized by the presence of single cultural elements or stable complexes, may fairly readily be defined; that these are valuable as a framework for generalizations concerning the distribution and general physical conditions, if any, associated with the elements or complexes; but that they afford no indication of cultural homogeneity within the areas, or of degree of cultural differentiation between them. Regions within which a specified degree of cultural homogeneity subsists, and the degree of cultural differentiation between such regions, or between particular social groups in the area as a whole, can be established by a statistical analysis of the inventories of all the individual cultures. Such regions are not, however, defined in terms of the presence or absence of specific traits, and cannot afford a basis for establishing correlations between physical and cultural conditions.

⁶ Klimek, S.: 'The Structure of California Indian Culture,' *Univ. Calif. Publ. Am. Arch. & Eth.*, Vol. 37, No. 1, 1935; see also Driver, H. E., and Kroeber, A. L.: 'Quantitative Expression of Cultural Relationships,' *ibid.*, Vol. 31, No. 4, 1932.

It is now desirable to analyse briefly the conditions which give rise to the observed areal clustering of cultural elements, and to the high degree of cultural similarity among the communities of particular areas. A number of distinct cultural processes appear to be collectively responsible. Adaptation to physical conditions, which themselves have limited geographical distributions, would appear to be of great significance, since such adaptation is essential to the survival of societies. But physical conditions do not impose any one specific adaptation on societies. Other processes must therefore be involved in the establishment of a specific adaptation throughout an area characterized by a given set of physical conditions. These include an initial invention or series of inventions, followed either by the proliferation and territorial expansion of the group in which the successful adaptation occurred, or by the diffusion of the adaptation from its place of origin to surrounding groups. It must, however, be recognized here that the diffusion of specific adaptations to the limits of the territory to which they are appropriate is—on account of the resistance of pre-existing societies with cultural configurations alien to those of the originating group—not always or necessarily achieved.

Further, a culture does not consist entirely (or even mainly) of elements which are direct adaptations to the physical conditions of the habitat. Many of the most distinctive elements of particular cultures lie within the fields of social organization and supernatural notions, that are highly indifferent to physical conditions, and the observable similarities of a group of contiguous cultures will normally include a great many elements of this kind. Such, for example, are the central elements of the Sun Dance rituals of the Plains Indians, referred to earlier, and the cult of personal visions characteristic of the same peoples.

The prior or concurrent diffusion of elements directly adapted to physical conditions may, however—and often does—facilitate the spread of such indifferent elements over a similar area, by producing a condition of technological and economic uniformity favourable to the diffusion of other cultural elements. In the North American Plains, for instance, the rituals referred to above, and many other cultural complexes, are found to have a distribution substantially

coextensive with that of the bison-hunting economy. But such conditions are neither a necessary pre-requisite, nor do they inevitably produce uniformity in other spheres of culture. The Yoruba and the Ibo in West Africa, with basically similar technology and modes of subsistence, present marked contrasts in the field of social and political organization. From this it follows that significant cultural divisions will not necessarily coincide with physical boundaries,

and that it is only when cultural elements are selected for their direct relation to physical conditions, that a high correlation between cultural and physical regions may be expected to follow. That the distribution of other cultural elements may be so correlated is to be accounted for, not in terms of any mystical personality attributable to natural regions, but by the cultural processes of complex-formation and diffusion.

THE CAMBRIDGE ANTHROPOLOGICAL EXPEDITION TO TORRES STRAITS: A PHOTOGRAPH OF THE MEMBERS. *By C. S. Myers, M.D., Institute of Industrial Psychology, London.*

90 This photograph of the members of the Cambridge Anthropological Expedition to Torres Straits and their servants was taken on Murray Island in May, 1898. The sole survivor is Myers, Haddon's first anthropological research student at Cambridge. Largely through him, Haddon was brought into touch with Rivers, McDougall, and Seligman. All five were subsequently elected into the Royal Society.

Ray had been known to Haddon for his interest in Oceanic languages, which he had hitherto studied merely from Bible translations made by missionaries. Ultimately Cambridge conferred on him the honorary degree of M.A., but to the end he earned his living as an elementary school teacher at Ilford. Wilkin was a young graduate in history, of King's College, Cambridge. He acted as photographer to the Expedition, helped Haddon in various other directions, and investigated particularly the conditions of land tenure and transfer of property, the construction of houses and other social conditions. He died in Cairo from dysentery, three years later.

Of the loyal servants to the Expedition, Ontong was a Malay cook brought from Thursday Island. Debe Wali (meaning 'fine clothes.') and Jimmy Rice were Murray Islanders; they characteristically refused service at six shillings per week, but when a gold sovereign was produced they agreed to work at one pound per month. Their personalities were as different as can be imagined.



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|--------------------|---------------------|
| 1. W. McDOUGALL. | 2. C. S. MYERS. |
| 3. C. G. SELIGMAN. | 4. W. H. R. RIVERS. |
| 5. S. H. RAY. | 6. A. C. HADDON. |
| 7. CHARLIE ONTONG. | 8. A. WILKIN. |
| 9. JIMMY RICE. | 10. DEBE WALI. |

ROYAL ANTHROPOLOGICAL INSTITUTE

The Council has taken measures for the safety of the Institute's valuable library. The 'historical' section consisting of older works not easily replaced has been removed from London. The 'working' part remains on the shelves at 21 Bedford Square, W.C.1, except some foreign periodicals. The borrowing service is in full operation, and the continuance, in London, of this well-equipped library, appears to be widely appreciated.

It is intended that MAN shall continue to appear in 1942 every two months, so long as paper can be obtained. The larger number of pages in each number permits the inclusion of a few longer articles than heretofore; and under present conditions reviews will be published of important books not in the Institute's library. But it is hoped that publishers will see to it that these are few.

REVIEWS

ARCHÆOLOGY

Alalakh and Chronology. By Sidney Smith. London: Luzac and Co., 1940. 52 pp.

91 This short memoir is an important contribution to the ancient history of the Near East within the second thousand years B.C. It is a tribute to the memory of H. R. Hall of the British Museum who died ten years ago, and is a combination of archaeological and historical argument which would have delighted him.

Archaeological data from Sir Leonard Woolley's recent excavations at Alalakh, the ancient site represented by 'Atshanah in the lower Orontes valley in Syria,' cannot be fully published at present; but enough is known to justify an unusually detailed correlation of stratified cultures and dynastic periods, and to establish a new and considerably later date than is currently accepted for Khammurabi and the whole of the First Dynasty of Babylon. This in turn involves adjustment in regard to the XIIth Dynasty in Egypt, usually supposed to be contemporary with the First Babylonian Dynasty; and affects one of the few positive connecting links between the material cultures of Syria and the Minoan culture of the Aegean, namely, the so-called 'Nuzu' pottery, with its decoration of flowers and birds in white paint on a reddish or brown clay, so incongruous with other fabrics of the Near East.

Briefly, the argument is as follows: the details must be studied in the memoir itself. Approximate accuracy has been attained in Oriental chronology as far back as about 1450 B.C. by combining Egyptian regnal years with astronomical events, and with the synchronisms with Syrian, Babylonian, and Hittite reigns in the Tell-el-Amarna documents. Beyond, though there is astronomical dating for Senusret III and Amenemhet III of the XIIth Egyptian Dynasty from 1879 to 1793, and though the Kassite invasion of Babylonia seems to have begun about 1726, and the eighteenth Kassite king, Karaindash, probably began to reign before 1450, there has been no precise correlation for the First Babylonian Dynasty, though the names, and order, and regnal years of its kings are known, and an important astronomical datum is offered by the so-called 'Venus-tablets' for the reign of the tenth king, Ammizaduga, from which Langdon and Fotheringham calculated the period 1921-1900, in the belief that a king of the First Babylonian Dynasty must have reigned about that time.

But those conjunctions of Venus are periodic, and recur after approximately 275 years. Consequently Fotheringham's calculations are as compatible with the historical date, 1645, as with 1920. The note contributed

here (pp. 26-27) by Brigadier-General J. W. S. Sewell C.B., is conclusive on this point.

Mr. Sidney Smith's argument for reconsidering the currently accepted date is (as already noted) partly archaeological, partly documentary and historical.

(1) At Ur, the plain pottery of the time of Rim-Sin and Khammurabi closely resembles that of Kurigalzu about 1400, and that of Karaindash at Erech about 1460; and this interval (400-450 years) is a long one (p. 3).

(2) At Chagar-Bazar and Brak in the Khabur valley, Mallowan was able to assign a characteristic type of brown-painted pottery to the time of Shamshi-Adad I of Assyria, a contemporary of Khammurabi. At Tall-Billa and at Brak the culture to which this 'Khabur' pottery belongs was superseded abruptly by that of the 'Nuzu' fabric with ornament in white paint dated at Nuzu itself (near Kirkuk) to the period 1450-1350, and represented at Alalakh in Levels II-IV, first by formal patterns, later by unusual and fantastic designs, suggestive of Minoan influence. Its introduction here is dated by tablets about 1450, and it follows (in Level V) a quite different black ware with incised ornament, which overlaps the painted 'Nuzu'-ware at Nuzu itself, so that the passage from Level V to IV is very closely correlated: it is also quite abrupt, and the crisis certainly results from the Egyptian conquest of the Orontes valley in the 33rd and following years of Thothmes III. As Levels VI-VII have pottery of 'Khabur' types, the buildings in Levels VII cannot have been built before the time of Shamshi-Adad I, and were standing in Khammurabi's time. In Level VI occurs also a well-known ware, light-coloured with decoration in red bordered with black, common in Palestine about 1650-1450. Levels VI and VII are therefore securely dated to the period 1800-1600; and if Khammurabi and his contemporaries lived not later than 1870, as has been supposed, the 'Khabur'-ware must have lasted 300 years at Alalakh, and 400 at the Khabur sites. Again (if this early date is right), there is a long 'pause' in ceramic development.

(3) Tablets from Alalakh VII are of the reigns of kings of Yamkhad (the region of which the capital was at Aleppo, and to which Alalakh belonged), who were contemporaries of Khammurabi and Rim-Sin. On the other hand the great break between Alalakh VI and V certainly marks the conquest of this Aleppo kingdom by the Hittites under Mursilis I, and the fall of the First Dynasty of Babylon, 155 years after Khammurabi's death. If Levels VII-VI, thus dated, fall between 1800 and 1600, the known kings of Yamkhad would be

contemporaries also of Senusret III and Amenemhet III of the XIIth Dynasty in Egypt (1879-1793). Now in Alalakh VII there is not only Egyptian influence, but a seal-impression showing that an Egyptian god was worshipped by a member of the royal family of Yamkhad, contemporary with Khammurabi. Besides other evidence of Egyptian domination in the period before the Syrian conquest of Shamshi-Adad I, it is certain that, at Ras Shamra, cylinders of the First Babylonian Dynasty are associated in tomb-groups with pottery and scarabs of the XIIth Dynasty of Egypt. The same conjunction is recorded from a Middle Minoan tomb at Platanos in Crete, which is to be dated about 1800. On the archaeological evidence, therefore, the First Babylonian Dynasty must be dated later than hitherto; in particular Khammurabi must be later than Amenemhet III.

(4) Archaeological material from Hittite sites shows continuous development from the days of Hattusilis I and Mursilis I down to the fourteenth century. As long as Mursilis I, the conqueror of Yamkhud and Babylon, was dated by the early reckoning for the First Babylonian Dynasty, there was the same sort of 'pause' in Hittite development as in Syrian. But if the Babylonian dates are brought down, this 'pause' disappears.

(5) Turning now to the documentary evidence, it is evident that statements of later Babylonian kings about their predecessors are of little value; that the Babylonian 'king-lists' have been misinterpreted on the assumption that all kings recorded in them—including the early Kassite kings—actually reigned in Babylon, and that apart from this assumption there is evidence of contemporary rulers in different parts of the country, and especially that the Kassite conquest and the collapse of Babylon were gradual.

(6) All this makes it unnecessary to look for the historical occasion of the 'Venus-tablets' as early as 1920-1900, and justifies acceptance of the next alternative period, with the reign of Khammurabi at 1792-1750, that of Ammizaduga at 1646-1626, and the fall of Babylon before the attack of Mursilis I about 1595. This is in close accord with the death of Amenemhet III about 1790-1789; and with two earlier eclipses, on 25 April, 2015, and 15 July, 2131 (Julian dates), as recorded in Babylonian omen-texts.

The remainder of Mr. Smith's memoir contains a detailed reconstruction of the political and cultural history of Alalakh from the beginning of Level VII about 1780 to the desertion of the site during the Migration-Period between 1220 and 1190. For this, the memoir itself must be consulted. The purpose of this review is to call attention to the closely reasoned and apparently conclusive convergence of arguments for this new and later dating for the First Dynasty of Babylon: the significance of which, for Anatolian and Aegean archaeology, will be already apparent to those who are familiar with the course of events in the Hittite and the Minoan regimes.

JOHN L. MYRES.

A Preliminary Survey of the Quaternary Period in South Africa. By H. B. S. Cooke, M.A., M.Sc., F.G.S. *Union of South Africa Bureau of Archaeology, Archaeological Series IV.* Pretoria, 1941. 60 pp., illustrated. Price 2s.

After studying pleistocene problems in East Anglia

and on the continent of Europe, Mr. Cooke continued his work in South Africa and in the Department of Geology of the Witwatersrand University, and in close collaboration with the Bureau of Archaeology, whose Director, Dr. C. van Riet Lowe, recommends his work as 'of inestimable value to the Bureau.'

This short essay is the first attempt to correlate all the known evidence for early cultures in South Africa, after study of about two thousand sites and very many sections which illustrate their stratification. A complete synthesis of Quaternary events in South Africa is not yet possible, but this investigation is an important piece of pioneer work. The bibliography (pp. 53-55) includes three earlier papers by the author, besides two written in collaboration. There is a full and convenient index; a preliminary survey of techniques and types of implement, and of the principal categories of deposits; and a cautionary note (p. 12) on the 'use of the term "Pleistocene," which has not as yet received any sort of delimitation in Southern Africa,' and in place of which Mr. Cooke prefers 'Quaternary' for the present; for 'Pleistocene' he follows Hopwood in requiring the presence of any one of the genera *Bos*, *Elephas* and *Equus*, a criterion generally accepted in other parts of the world.

Separate consideration is given to the coastal region and its raised beaches, to the non-fluvial deposits of the interior, to the cave deposits, and to the river-terrace and alluvial deposits; and there is an interesting section on the Pleistocene mammalia.

J. L. M.

Notes on Archaeological Technique. Printed for the Oxford University Archaeological Society, and obtainable at the Ashmolean Museum, Oxford. 32 pp. Price 9d.

For many years the Oxford University Archaeological Society, which mainly consists of undergraduates, though some of its members have had seniority thrust upon them, has conducted modest excavations, during the academical terms, in the neighbourhood of Oxford; and in vacations its members have been in demand, in their own and other districts, by reason of the sound training they have there received.

Here is an invaluable handbook to the art and mystery of 'digging,' and especially to that kind of 'rescue-work' which has been the main function of the Society. It differs, as is candidly admitted, from large-scale excavation 'to solve stated and important problems,' for its object is 'to obtain as quickly and as economically as possible, the maximum of *fact*' from 'small and hastily-dug' sites.

The section on methods and manners in approaching a site—and its owner—is sheer commonsense; those on trenches, tools, and equipment, recording and drawings, are also most practical. There are good notes on the treatment of pottery, on photographs, on bones and skeletons, post-holes, and objects of iron, bronze, wood, and shale; and a well-chosen bibliography. And, to tempt the novice to carry the little book with him, there are ample blank pages at the end.

No names are mentioned, so congratulations must be addressed to the Society at large on so valuable a guide to sound digging.

J. L. M.

SOCIOLOGY

Society, the Individual, and Change, with special reference to War and other Present-day Problems: The Livingstone Lectures. 1940.

94 By A. P. Elkin, Professor of Anthropology in the University of Sydney. Sydney, 1940. 91 pp.

Here is 'applied anthropology' indeed—applied not to the betterment of primitive peoples, but to check the disintegration of European nations; a reasoned and moving appeal "to know our own society through 'social anthropology.'"

As a social-anthropologist, Professor Elkin needs no introduction; his work for the Australian National Research Council among the aborigines of the Kimberley Division of North-west Australia, and in South Australia, is well known. For himself "a very important consequence of these expeditions was the conviction that I "was not only analysing the life of the Aborigines, but also "gaining insight into my own societies"; for "the isolation associated with the study of a primitive society "which is completely detached from our own culture . . . "gives rise to an experience and attitude of detachment "even towards the field-worker's own society," and he "should be able to recapture this desirable objectivity "when needed" (p. 12).

Man is everywhere a 'social animal.' In modern societies, as in primitive, there are not only biological families, but other groupings between family and state; and Professor Elkin gives suggestive examples of their working, and social results, in Australian townships (p. 21), and notes how, except on certain occasions, the political life is as dormant as among the Aborigines, and how ill-prepared the ordinary citizen is for political emergencies, just because they fall outside his daily experience. Similarly 'politicians' of the ordinary national sort find themselves inexperienced at an international crisis. The special case of religious (denominational) group-life leads to the question how these groups (which are ingeniously compared with primitive 'moieties') fall short of nation-wide experience or endeavour, and how this shortcoming—this 'hardened segmentation' of customary groups—may be remedied. So much for the anthropological analysis of modern society.

Turning to the human material, the individuals of which all societies consist, the first problem is the familiar one of 'race and culture' (p. 39), of the endless variety of individual differences, between both racial and cultural extremes, and of the frequent 'misfits' of individuals within the groups in which they grow up. Every citizen goes through a widening series of apprenticeships to cultural relations, which also intersect—and again the analogy of primitive 'moieties' is helpful. The resultant individual is in the strict sense a *persona* of several such associations, or of all, and these relationships include not only living contemporaries, but culture-heroes, nature-spirits, or gods. Again, alongside the political function of an individual, looms up the religions (p. 50).

The ideal is that the mature—shall we say 'educated'—individual shall be competent—in the words of the Church Catechism—"to do his duty in that state of life "to which God shall be pleased to call him"; to be a "fit person to serve God in Church and State" as the Oxford Bidding-Prayer has it. Only a few achieve that competence, but all may grow in that direction: and it is the *will* to make the right decisions that is crucial. We are back, apparently, at Aristotle's conception of the *phronimos*, the normal rational man, who looks at things fairly and squarely, and makes up his mind. Now this is just what totalitarian societies, lay and clerical, have

ever striven to preclude, substituting the will of the *Führer*, or as they say in primitive Australia, "because Baime says so" (p. 53), and it is "theirs not to reason "why?"

Supposing, however, that the will of Baime or the *Führer*, or the Book, has prevailed in any society, "is "it likely that rebellion will arise even in thought?" (p. 55). Is the difference, once established, between (say) the English and the German mentality, unalterable, either by internal 'change of heart,' or by "a mandate "of a specially high type," of which Professor Elkin speaks hopefully, though he leaves open (for momentous decision) whether the means will be "the domination of "the world by one Totalitarian State, or by the conscious "adjustment of the relations of the individual nations to "a great world society in which ordered freedom and co-operation become the conditions of rich national and "international life" (p. 6).

But "the problem of the relation of the individual and "society includes the problem of change." Society is a people's structure; culture is a people's life, among Aborigines or Western peoples (p. 63). And the life of a people is the mass-effect of innumerable ever-successive decisions, each taken by an individual in the light of his own make-up and experience. The present is thus bound to the past, and conversely it is the breaking of links with the past that releases new forces and conditions, and makes possible and inevitable fresh decisions. Here is the significance of 'culture-contact' in inner Papua and in Europe alike: for a *Kultur* like that of modern Germany either dissolves the cultures with which it clashes, or braces them to repudiate and replace it. Most administrators and missionaries now know the proper word, 'Quisling,' for those who welcome a 'new order' and desert their own. Once again it is the *will* to change, or to resist change, or to *decide* on a more excellent way, that matters.

This leads to an urgent and unavoidable question, the significance of war. The 'biological theory of warfare,' inherited from Darwin (and before him) by Kidd, Bernhardt, Freud, and Hitler, is essentially the appeal to force (p. 73). The pacifist views of Perry, Elliot-Smith, and others show imperfect acquaintance with the nursery; and to make them work Elliot Smith had to admit (*Human History*, p. 191–3, 266) that self-defence, anger, and violence are "reactions "intended only for use in exceptional circumstances": but when small John seizes little Jane's doll, does it not appear to Jane a quite 'exceptional circumstance'? And when Dr. W. R. Inge says (*Christian Ethics and Modern Problems*, p. 293) that war in the proper sense began with the discovery of metals, he either overlooks or seriously under-dates the Spanish cave-paintings of warfare. As Professor Elkin notes (p. 78) warfare is sometimes the result of quite secondary ambitions, and even becomes (in New Guinea) the distasteful but conventional method of ratifying a divorce (p. 78).

Thus warfare becomes intimately connected with propaganda, not propaganda merely with war. And the remedy for both emerges: if people know and think enough about the occasions for either, they do not see the need for war, and they are merely bored by propaganda, as they are daily bored by advertisements of commodities for which they have no use. Current modes of propaganda are likely to defeat themselves.

Of the effects of war on culture it is only necessary to note Professor Elkin's treatment of three; (1) the changes of cultural emphasis, and the momentary release from current inhibitions, enabling a prepared people to seize the occasion for adjustment to new circumstances;

(2) the unmasking of the 'economic man' as a creation of economists and profiteers, a 'one-sided travesty' which has to be subordinated to political needs in wartime, and can be subordinated to aesthetic or to moral needs, whenever people have the will, and make the necessary decisions; (3) the social needs of women, in relation to society's need for them, when the sex-ratio

is altered by war-losses, and the child-ratio by economic pressure or the 'neurotic rush for pleasure' (p. 88).

Enough has been said to show the quality, and the opportuneness of Prof. Elkin's modest volume. It would be well if it could be reproduced in a more permanent and attractive form, for it deserves to be generally read.

J. L. M.

SOUTH AFRICA

A Bibliography of South African Native Affairs. By I. Schapera. Oxford University Press, 1941. 249 pp. 10s. 6d.

We are already indebted to Professor Schapera and some of his colleagues from the South African Universities for a series of annotated bibliographies of the prehistory and ethnography of South Africa and Southern Rhodesia, a field which these Universities have very properly adopted as particularly their own. Schapera's own book *The Khoisan Peoples of South Africa* (1930) summarized all the then existent material on the Bushmen and Hottentots, while his *Select Bibliography of S. African Ethnography* appeared in a special number of *Bantu Studies* in 1934 (Vol. VIII). In 1935 Goodwin produced a similar number of that journal (Vol. IX) devoted to *A commentary on the history and present position of S. African prehistory, with full bibliography*. Such preliminary work has been of considerable value, both to the elementary student and to the specialist, largely because this literature is not only voluminous and of very uneven quality, but also much of it scattered in periodicals that tend to have a limited circulation in the Union itself.

The present bibliography includes little new material on the ethnographic or archaeological side, although it is newly arranged and recent publications are added. Schapera, who has compiled the ethnographic section himself, has grouped the matter under an interesting series of general headings, such as 'General Surveys of Culture,' 'Research methods and topics,' etc., and under special subject-headings dealing with South Africa as a whole. He has followed this with subdivisions giving the literature on each big ethnic group, also treated under subject headings. The literature is thus easy to consult, and the lacunae, which are many, stand out at a glance. The archaeological section, provided by Goodwin, with the assistance of Van Riet Lowe, also follows the main lines of the original *Bantu Studies* bibliography, but it is useful to have both these compilations published in a permanent and accessible form for the general public.

But the essential feature of the new work is its comprehensive character. It treats the native of the Union of Southern Rhodesia from every point of view, not only that of the ethnographer and archaeologist, but also that of the anatomist, physiologist, psychologist, economist, administrator, lawyer, teacher and politician. The section of 'Physical Anthropology' prepared by Galloway with the help of Drennan, Dart, L. H. Wells, and Elsdon Dew shows the extent to which S. African scientists have been engaged on comparative studies of the anatomy of the Bushman and Bantu, their physiology, their clinical symptoms, their bio-chemical reactions and their serology, including the interesting new work on the distribution of blood-groups among South African natives. The 'Language' section contributed by Doke, with the help of Lestrade and Van Warmelow, is, I believe, the fullest that has yet appeared. It is divided into grammatical, phonetical, lexicographical and textual material under the heading of each chief language-group. The annotated list of works written by natives themselves is of special interest. The section of 'Modern

Status and Conditions,' compiled by H. J. Simons, with the aid of Schapera and J. Rollnick, covers a wide field and will be invaluable to S. African anthropologists, who need the fullest data from the field of politics and economic affairs as the background of their field-observations. It should also be exceedingly useful to the administrator and politician since it selects the most important official reports, acts, and pronouncements and the better known controversial works on native policy and groups them under simple headings such as 'Native policy,' which included historical studies, and material on such important issues as 'segregation,' land policy, and 'colour bar' in the widest sense of the word; 'Administration of Law' covers modern urban and rural administration, the large body of legislation affecting the native population of the Union and S. Rhodesia, and the system of justice to which it is subject. The 'Economics' section is particularly useful and shows a judicious selection from a mass of documents and books. 'Education,' 'Religion and Missions,' 'Social Services,' and 'Culture Change' follow, although there hardly seems to be a case for treating culture-change as a separate subject for study in the Union at the present time.

The publication of this bibliography is of general interest to anthropologists since it shows that the South African Universities are capable of most successful teamwork under the aegis of an Inter-University committee on research. Hence it raises the hope that they will be able to tackle the problem of detailed comparative studies in the field of African sociology and technology which are so far almost completely lacking. The list of works on 'General Studies' given in this volume shows how much ground there is still to be covered before we know as much about the peoples of South Africa as we do about the vanishing Indian tribes of North America. But these bibliographies lay a sure foundation for such future work.

The book also shows the characteristic trend of modern South African anthropology in which, for obvious reasons, the study of Bantu sociology is closely linked with the study of native administration, native law, and problems of urban and rural development. Whether this comprehensive interest will be a strength to anthropological science in that it may destroy the rather artificial barrier that now exists between the study of modern and primitive sociology; or whether it will be a weakness, in that the scientist will tend to become obsessed by the political and welfare problem that are such live interests in South Africa, remains to be seen. In any case the opportunities of the South African school, if school it can be called, are obviously immense.

A. I. RICHARDS.

Economics of Detribalization in Northern Rhodesia. An Essay. Part I. By Godfrey Wilson. Rhodes-Livingstone Paper, No. 5. Livingstone, Northern Rhodesia, 1941. 71 pp. Price 2s.

In this essay, the writer has tried to limit himself to a 'bare description of the facts and of their inevitable "connections." He takes certain facts and connexions for granted, since to prove them lies outside his scope. But he hopes soon to publish a systematic defence of

these assumptions. Though he makes recommendations in detail, and points to things which are 'inevitable in present conditions,' his main object is to present the facts, and certainly he has spared no trouble in collecting and publishing them.

In primitive Northern Rhodesia societies were on a small scale, relationships mainly personal, classes rare; nation-states did not exist, and each tribe was a world in itself; and economic conditions were simple. In present conditions society is on a large scale, relationships are impersonal, classes are clearly divided; there is a world-community of nation-states with its own very complex economic forces and situations. Change, moreover, has been uneven, because mining has outrun all other developments, and there is social tension between the rural areas and native communities, and the industrial centres with their multitude of detribalized but imperfectly urbanized natives, of whom the large majority are men, though it is not so difficult as formerly for a man to bring and maintain his wife, especially under the 'location' arrangements at Broken Hill.

Mr. Wilson insists that the present conditions are abnormal, and result from war-time demand for mining output; and this strengthens his plea both for immediate measures (because the war may be long) and for long views, so that if the present crisis is short, the country may be prepared to deal with the next phase.

Stabilization, rural development, and increased trade would, he thinks, resolve current maladjustments and tensions, and have already begun; but these tendencies are impeded by present world conditions. They indicate, however, the direction in which relief may be expected to occur, and should be facilitated. The fundamental disproportion being between capital accumulation and heavy industry on one side, and consumption, secondary industry, and agriculture, on the other, it is not only in the economic field that remedies have to be found, for there is disharmony in legal and religious matters also. Between Africans and Europeans in Northern Rhodesia immediate interests conflict, and the conflict is accentuated by racial and cultural differences, which the African finds inexplicable and distressing. It is unfortunate that European interests appear to demand the maintenance of the disproportion between urban and rural population, whatever its propriety and consequences; and that African interests demand its resolution, even at the cost of dispensing with Europeans, whose present tasks Africans feel themselves competent to perform, and are now being more generally recognized to be so. Much, Mr. Wilson thinks, may depend on the duration of the present world-crisis, for the reasons already indicated.

This careful study, with its detailed statistics, is a valuable contribution to an urgent problem. J. L. M.

AMERICA

The Chorti Indians of Guatemala. By Charles Wisdom. University of Chicago Press (Cambridge University Press), 1940. 490 pp., with 12 illustrations and 12 plates. Price 27s. net.

This is an ethnographic study of the present-day Chorti Indians.

Although there is now a large literature dealing with the monuments of Copan, and it is generally accepted that the Chorti are the descendants of the ancient inhabitants, yet the living Indians are never mentioned in the books. It is a striking example of the tendency of Maya investigators to ignore the present cultures, which if recorded, while there is yet time, would throw light on the Maya in general. However of late much good work has been done by Thompson, La Farge, Blom, and others.

The author deals with every aspect of the native life. Several chapters are devoted to the material culture. One notes the regional differences of manufactures and the tendency towards professionalization, and the interesting account of the markets and of the present government and social classes. Also the treatment of sickness, and the beliefs regarding it, are fully described.

It is instructive to compare the description of religious beliefs and practices with La Farge's account of the Jacalteca. The Chorti appear to have completely lost the ancient calendar, although the author does not specifically say whether he made enquiry on this point or not. The religion, which (like that of the Jacalteca) is a blend of native and Christian ideas, is less native, especially in its official organization.

On the other hand some of the native deities have survived to a considerable extent, notably the god of death, whose characteristics recall those of God A. in the codices, while the Working Men carry stone axes like God B. The four Chicchans at the four cardinal points preserve the name of a Maya day-sign and are themselves snakes, which is the meaning of that day-name in all the Middle American calendars, and further they are feathered snakes like Kukulcan. It is strange that the Chorti (as La Farge reports also of the Jacalteca)

have no names for any cardinal points except east and west, although several of the gods are connected with world-directions, and the house and the *milpa* (which latter typifies the world, like the square world of the ancient Maya) are oriented.

A notable and unique feature of the book is the chapter on kinship and social organization. Hitherto very little has been published on this for any Maya people, except the valuable paper of Eggan on the kinship terms of the Motul Dictionary. The author gives most full and valuable details on this, but space prevents discussion of them here. When the treatment is so good, it makes the reader anxious for elucidation of some points not yet evident. One would like to know if the surname (*q'apa*) is exogamous, and also to have the descent of the *apodo* name made clear. It is said to be the name of the 'family'—i.e. joint family—which is not a permanent group, as it breaks up after three generations; yet we are told that there is a feeling against two people of the same *apodo* name intermarrying. Do the members of the 'family,' after it breaks up, continue to be called by the *apodo* name which they had while living as a joint family? If so, there would be several 'families' with the same *apodo* forming a quasi-exogamous group. Also it is not clear what are the real restrictions on marriage. Nominally the Roman Catholic restrictions are in force, and we are told that the priests will not celebrate marriages between first cousins; yet it seems that informal unions between first cousins sometimes occur, and as a large number of unions seem to be without a church marriage we are left without definite information. The system, in which one generation in a 'family' exchanges siblings and cousins in marriage with a generation in another 'family,' would (if repeated between the same groups in the next generation) lead to cross-cousin marriage, but this seems not to occur. Is there any rule governing the marriage of the next generation of the 'family,' seeing that apparently they do not marry into the group of the mother?

The author, like most Americans, uses a special orthography of his own for the native language. That

is understandable, but one cannot understand the word *shagway*, which from the context might be taken to be in Spanish orthography, yet 'sh' is never used in Spanish, nor is it used in the author's Chorti. Also it is surprising that he cannot explain *tepan*, used for the principal church of a pueblo. It is of course the Aztec *tepan* ('at the chief') used in the sense of a chief's residence or capital city as in 'Tecpan Atitlan,' etc.

The Chorti language seems to the reviewer to have a

considerable resemblance to Yucatan Maya, which is interesting, seeing that the Chorti near Copan and the closely related Chol near Palenque are probably descendants of the Old-Empire Maya.

Altogether this is one of the best books that have appeared on the modern Indians of Middle America, and one would like to see more like it.

RICHARD C. E. LONG.

OCEANIA

Tales of a Lonely Island. *Rotuman legends, translated by C. Maxwell Churchward, with a foreword by Professor A. P. Elkin. Oceania Monographs, No. 4. Australian National Research Council, Sydney, 1939. iv+127 pp. Price 5s.*

This useful collection of linguistic material originally appeared as a series of articles in *Oceania*. It consists of eighteen texts of Rotuman legends; translations which achieve a remarkably good English style, without departing too far from the original; grammatical notes and references to the author's other contributions to Rotuman linguistics. Mr. Churchward does not attempt to inject any garbled 'philosophy' into straightforward Polynesian narratives. Some of the texts have apparently been bowdlerized by the natives themselves, but today this is more or less inevitable.

Ethnologically, the work is disappointing. It could have been improved by collation with earlier observations in the same field, notably those of Gardiner. Comparative references to cognate Polynesian myths would have been useful, and there is no indication of the relation of these legends to ritual and to social institutions generally. In this respect, many opportunities have been missed. To take one example, Williamson has suggested the possible bearing of the earlier Rotuman myths on *kava* ceremonial, a question on which it might still be possible to obtain information.

It is to be hoped that Mr. Churchward will bring his knowledge of Rotuma to bear on further research along these lines. The present contribution provides a valuable preliminary.

RALPH PIDDINGTON.

CORRESPONDENCE

Prehistoric Iron. Cf. MAN, 1941, 59.

99 **STR.**—As certain erroneous ethnological deductions might be drawn from Mr. Coghlan's important paper on 'Prehistoric Iron' (MAN, 1941, 59), it may be well at once to draw attention to certain facts overlooked by the author. Mr. Coghlan was unfortunate in being unable to use Schaeffer's important discussion of the question in his definitive publication of the axe from Ras Shamra (misprinted in MAN) in *Ugaritica* (Paris, Geuthner, 1939), pp. 110-117. A metallurgical study of the axe-blade by M. Léon Brun, Directeur des Forges et Aciéries de la Marine, reveals that it is of steel (*fer aciéré*) and "obtained in a furnace similar to those used in the production of copper."

Schaeffer establishes the Mitannian affinities of the axe on stylistic grounds, and reminds us that iron was among the more valuable presents sent by Dushratta of Mitanni to Amenhotep III (1415-1375). Persson has shown that one of the words used for iron in the Amarna Letters, *habal-kinnu*, contains the familiar tribal name that reappears in Hebrew as *Tubal* and in Greek as *Chalybes*; it presumably therefore implies a community of metal-workers already established somewhere in Armenia. In the fifteenth and early fourteenth centuries the Mitannians controlled, if not the metal-working district, at least its southern outlet in North Syria. It was only after their conquest of Syria that the Hittites obtained the control of the iron trade implied in the famous letter of Rameses II quoted by Mr. Coghlan.

Hence there is no evidence that either the Indo-European Hittites nor the Aryan rulers of Mitanni were responsible for developing the industry, though both would control its output in accordance with the established Oriental policy of making the metal trade more or less a State monopoly. On the contrary, they probably found the industry already established in the hands of the Chalybes. It would have been from these that regions on either side of their presumed territory

obtained the metal in the earlier part of the second millennium; for iron seems to be mentioned as a costly metal (respectively $\frac{1}{4}$ and 15 times as dear as copper) both in the Cappadocian tablets and in Babylonian documents of the time of Hammurabi (Meissner: 'Warenpreise in Babylonien,' *Abhandl., preuss. Akad., phil. hist. Kl.*, 1936, 2). The same people would presumably have produced the authenticated iron objects of the third millennium, cited by Mr. Coghlan. It is significant that one of these actually came from Chagar Bazar which was later Mitannian territory; the other two would be dispersed on either side of Armenia if the date of 2500 B.C. for the tomb at Alaca Höyük be accepted: this date, however, is uncertain, and Alaca Höyük must in any case be distinguished from Alisar Höyük, excavated by the Americans. (These names are spelt here according to correct Turkish orthography.) Be that as it may, the admittedly fragile indications are that the iron industry was already practised in Armenia in the third millennium, before any Indo-Europeans appear in the historical records of the Near East.

The perforated hammer-axes, to which Mr. Peake has referred Mr. Coghlan, would be most unsuitable implements at the forge: shaft-hole axes of stone were very liable to break at the perforation, as numerous fractured specimens show. The first blacksmiths are more likely to have used grooved stone hammers, such as copper-smiths and miners did demonstrably employ. Hence there is no reliable evidence for connecting iron-working with Indo-Europeans before 1200 B.C.

Incidentally *ayas*, the only metal known to the Aryans in India at the time of the Rig-Veda, must be copper or bronze; for instance, in RV. IX, 1, 2, *yonim ayohatam* makes sense only if translated a 'vessel of beaten copper.' Compare also *gharmasciṭ taptah* . . . *ayasmayas* in RV. V, 30, 15—hardly an 'iron cauldron'!

That the secret of the Chalybes had anything to do with a tall blast-furnace is also unproven. The iron-

smelting furnaces of the Early Iron Age discovered in Scotland, for example, are at best precursors of the Catalan forge—in fact 'furnaces' of the same type as 'those used in the production of copper' (Childe: *Pre-history of Scotland*, p. 226). V. GORDON CHILDE.
The University, Edinburgh.

The King's Evil.

100 SIR,—What follows is an extract from the manuscript diary of my grandfather, the Rev. A. B. Evans, then of Britwell Court, near Burnham, Bucks, 1823.

"I can easily conceive 'touching for the evil' to 'have been effectual, for I believe the imagination to 'have considerable power in the cure of scrofulous diseases, if indeed it can ever be called a cure. Pusey, 'a steady respectable labourer, now in the employ of 'Mr. Popple, who lives in a cottage opposite old farmer 'Perryman's near Farnham Common, told me this morning (March 26th. 1823) that his daughter had been 'afflicted for two years with what Mr. O'Reilly of 'Windsor said was the worst kind of King's Evil. Her 'throat was eaten away by it so as to expose the wind- 'pipe and her mouth had begun to feel its effects. Pusey 'had tried all possible means of cure and among other 'things got his daughter into the dispensary: but 'nothing gave her the slightest relief. His mother or 'his wife's mother (I forget which, I believe the latter) 'had left behind her a specific in these cases, which it 'was now determined to try. A toad was procured by 'the father, whose two hind claws were severed very 'carefully at the wrist (as he called it) and the animal 'put away into a fit place where the wounds might 'gradually heal, for if it dies, the patient, it seems, is 'bound to grow worse and worse. The claws thus 'procured were sewed up in a leathern bag well secured, 'with a covering over it of black silk, and by bands of 'black silk ribbon attached to it, and passing over the 'shoulders and round the waist, was fixed to the pit of 'the stomach of his daughter, whose disease was rapidly 'increasing. From the moment of the application, the 'dreadful wound in her throat, which extended almost 'all round, began to heal, and in two month's time, all 'was well, and nothing more was felt of the complaint. 'Her health improved; she has shot up to the height 'of 5 ft. 7, a fine young woman, and is at this moment 'kitchen maid at Cecil's at Salt-hill.

"The nostrum it seems prescribes the two fore claws 'for a man or boy: and the two hind ones for woman 'or girl.

"The fancy has the same effect in the cases cured (if 'they have been cured) by Prince Hohenlohe, and the 'many other princes who have touched for the King's 'Evil, as the scrophula is called."

JOAN EVANS.

Thousand Acres, Wotton-under-Edge.

Squoyles as Throwing-Cudgels. Cf. MAN, 1941, 78.

101 SIR,—Mr. Sheppard suggests that my 'squoyles' are 'bleeding mallets' (MAN, 1941, 78). It is, of course, impossible to prove their original purpose. I can only repeat that our gardener carried and used an exactly similar one (specially made for him) as a throwing-cudgel. The impressions noted by Mr. Sheppard on one of my 'squoyles' were not made by the bleeding-flem, but by myself when I tried to kill rabbits. The others were worm-eaten, so I could not use—and damage—them.

G. B. GARDNER.

Magic and Psycho-Analysis. Cf. MAN, 1941, 73.

102 SIR,—My own theories, for what they are worth, are:—

1. That nothing is instinctive in man which he does not share with the apes.
2. That magico-religious ideas arose in human societies in the remote past, and have been transmitted by language and example.
3. That nothing originates in the unconscious, which is the repository of the forgotten or half-forgotten.

If Dr. Róheim is right, these theories are clearly wrong, since according to him magico-religious ideas arise instinctively out of the unconscious. He tells us that one Hungarian psychotic "thought that, by moving his "head, he could influence the sun," and that another "was "performing *intichiuma* ('increase') ceremonies by "rubbing his body."

Before accepting these statements as proof, we should need to be sure:—

1. Exactly what they were doing.
2. That they described their motives spontaneously, and not in answer to leading questions.
3. That no such rites are practised in Hungary.
4. That neither of them had ever seen a work on ethnography.

On none of these points does Dr. Róheim enlighten us.

RAGLAN.

(1) The Name of Isis in Plutarch; (2) Psychostasia.

103 Cf. MAN, 1941, 71.

SIR,—I do not attempt to criticize Mr. Hornblower's ingenious theory of the relations of Osiris with fertility-rites (MAN, 1941, 71), but wish merely to point out a couple of errors of detail which would be better away. They do not invalidate his main contentions.

On p. 94, para. 3, Mr. Hornblower has misunderstood Plutarch, *de Iside et Osiride*, 56 (or more accurately, p. 374b), which says nothing of any interpretation by Plato of a name of Isis or anyone else. I translate the passage: "But Isis is sometimes called also Mut and again Athyr and Methyer. They signify by the first "of these names 'Mother,' by the second 'seemly house "of Horos,' even as Plato (speaks of) a place and re- 'ceptacle for coming into being. The third name is a "compound of (the Egyptian words for) 'full' and "causative,' for the material substance of the universe "is full and dwells with what is pure and ordered." Plutarch is arguing that Isis represents the material and receptive component in nature, a typical piece of theologizing, and he seeks authority in Plato *Timæus*, 52d for such a component existing.

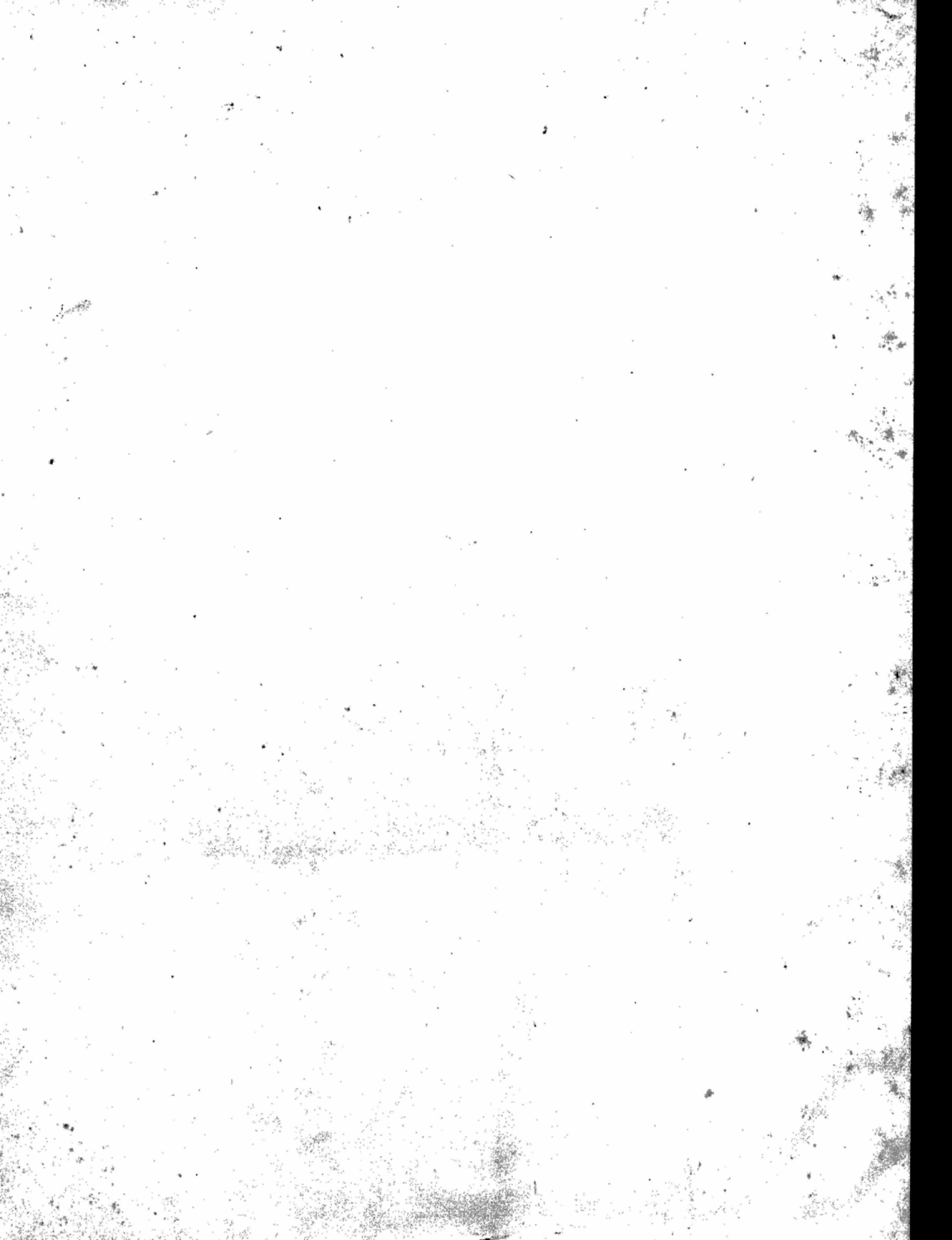
On p. 95, para. 3, of that page, I do not know what the psychostasis of Hermes is. *Psychostasia*, that is, the weighing against one another of the lives of two combatants to see which is heavier, is a mythical process as old as Homer or probably much older, and is the subject of a lost play of Æschylus. It is unconnected with moral judgements or the fate of the souls in another world, and Hermes has no special connexion with it.

As regards the note which concludes the whole article, it is not the case that "t and h were perhaps separated" in the classical pronunciation of θ, but quite certain that the letter was an aspirated dental, approximately the sound of th in Eng. *sweetheart*.

I am not a specialist in the antiquities of Spain, but unless I misunderstand Mr. Hornblower's reference on p. 99, first paragraph in the right-hand column, the genuineness of the monument he cites has been heavily attacked; see *Rev. archéologique*, XIV, 1921, p. 154.

H. J. ROSE.





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